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# Time Out: Influence of user experience design on behavior to reduce smartphone use

Tejal Sampat

# TimeOut

Influence of user experience design
on behavior to reduce smartphone use

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the Degree of Master of Fine Arts in Visual Communication Design

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**Title**

TimeOut: Influence of user experience design on behavior to reduce smartphone use

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# Abstract

**Keywords:**

*user experience design, nudges and prompts in design, timeOut, human-computer interaction, reduce smartphone use, information design, icon design, mobile application, iOS*

We are more connected than we used to be but people are becoming disengaged from the real world. Are smartphones a blessing or a bane? That depends on how we use it. Being hooked to a smartphone while interacting with family or friends is a definite no-no.

To address the issue of being neglected in social situations, timeOut allows neglected users to send anonymous timeouts to obsessive smartphone users who are preoccupied with their smartphones and are in close proximity to neglected users. The timeOut app allows neglected users to express their feelings without upsetting or embarrassing anyone. The application leveraged lean UX methodologies to quantify smartphone usage to make people aware of their distractive behavior.

The goal of the project is to influence behavior through nudges, prompts and challenges that help the users in making positive behavioral changes. This project takes the form of a proof-of-concept prototype. The final outcome is based on research, user experience and human-computer interaction, design principles and technology to demonstrate the underlying concepts.

**timeOut has four main objectives:**

1. To positively influence social behavior and impact smartphone usage with the help of user-friendly interface
2. To promote conversation
3. To make obsessive smartphone users aware of their distractive social behavior
4. To limit the interactions to bare minimum and design an externally consistent design for the iOS platform

# Introduction & Literature Review

*Introduction*

While there are a number of self-monitoring and tracking tools available for smartphones and desktops, none of them address the issue of excessive smartphone usage in social situations. Lately, people have become aware of their smart-phone related habits and many of them take steps to reduce their smartphone use. To this date, very little has been done to abate compulsive smartphone usage. Technology can help reduce smartphone use and this can be accomplished by understanding user needs and motivations.

*Existing Tools and Technologies*

The initial step of the research process comprised of investigating existing tools and services that aim to help users reduce their smartphone addiction. A comparative analysis of relevant applications was conducted.

**RescueTime** (website/software) is an application that tracks the amount of time you spend on various sites. It sends you alerts when you've been on a particular site too long. It aims on finding work-life balance and has user friendly interface. It assumes that the user is aware of their habit driven smartphone usage and is willing to take action, which may not always be the case.

**The Habit Factor** is an iOS app that is designed with the aim to help people cultivate new and positive habits. Although, the app is not aimed at obsessive smartphone usage, it promotes incorporating positive habits and reducing obsessive usage can be considered as one of its goals.

**The Lunecase** (hardware) is an iPhone protective case with a LED interface that displays call and message notifications. The electromagnetic waves generated by the device power the LED. The most impressive feature of this device is the ability to provide notifications to users without them having to unlock their screens. This approach can be used to warn users of their smartphone addiction before they unlock their screens.

**Moment** (app) tracks how many minutes you use your iPhone or iPad. It keeps a record of the number of times you pick up your iPhone and its location. This provides the users insights into the frequency and places where they tend to use their smartphones the most. The app does not provide any recommendations on reducing obsessive smartphone usage.

**21 Habit** (website) is a tool that will help develop or break a habit. Users must log their habit and check-in daily to indicate their progress. When one misses a day, a dollar is donated to a charity. If they meet all 21 days, they earn back the $21 they put into app at the start. It is based on the idea that one can make a habit in 21 days. It aims to provide incentives to individuals, which motivates them to achieve their goals.

**Checky** (app) is a new mobile application that monitors the frequency of smartphone usage. This awareness can help make changes to phone usage. The app lacks some key elements and it needs to run in the background constantly to track use. This activity draws out the phone battery and users tend to rethink its purpose. The app does not provide any recommendations on reducing obsessive smartphone usage.

*Design and Young Adult Psychology*

In today's fast-paced world, most of us and especially the younger generation are hooked to their smartphones. Many check their phones even before getting out of bed each morning. Throughout the day, people constantly check e-mails, browse the Internet, make calls, send texts, play games, listen to music and take pictures. We are so excessively dependent on our smartphones that we cannot imagine stepping out without them.

Smartphones provide many benefits like connectivity, navigation and gaming, but habit-driven interactions can interrupt and diverge attention. Obsessive smartphone usage affects an individual's conduct around other people (for eg. checking their phones at parties or meetings, while others are trying to have a conversation). As research shows, using a cell phone in a social scenario is a contagious behavior and may sway a person nearby to use his or her cell phone.[1]

In an article "We're creating a culture of distraction" author and entrepreneur Joe Kraus discusses a topic called "SlowTech". Slowtech is all about finding the off switch and provides resources on the consequences of technology and it's effect on our health. In this presentation he talks about how people are connected to technology and detached from people. He also talks about how we can be more mindful of technology and pay attention to the things around us (Constant culture of distraction).

A study "Mobile Mindset" conducted by Lookout security (2012), addresses how technology is taking over peoples daily routines. Regardless of age, gender, career or economic status, 56 percent of all Americans own at least one smartphone. It is also believed Americans are emotionally connected to their mobile devices. Phones are often the first thing people reach for when they wake up in the morning. This study analysis how often people check their phones and how they feel without their phones.

1. Dino, Grandoni. "Cell Phone Use Is Contagious, Study Shows." The Huffington Post. (accessed May 7, 2015).

The study also found that 85% adults between the age of 18 - 24 years own a smartphone. Also, 60% of them are highly dependent on their devices. Research shows, these young adults spend on an average 162 minutes with their smartphones daily.

*Reducing smartphone use and technology*

The motivation behind the timeOut app is to facilitate reducing smartphone usage in social situations. The timeOut is an iOS app that allows users to send anonymously nudges to friends who are obsessed with their smartphones especially in social situations. The navigation and structure is minimalistic and creates awareness around common smartphone related habits.

A recent study by the University of Southern California's Marshall School of Business investigated why high-level executives don't check their phones during meetings. The results suggest checking phones during meetings is disrespectful and multi-taking is a myth as people can pay attention to a single thing at a time.

When people use their phones in social situations they are perceived as being uninterested in their immediate surroundings. The same technology that they are addicted to, can make them aware of their habit-driven interactions and help the users address their negative behaviors and improve them.

*Facial Expressions and Emotions*

In an article "Micro Expressions", author Paul Ekman et al discuss the history of micro expressions, their importance and varieties. Paul Ekman is a pre-eminent psychologist known improving our understanding in nonverbal behavior, facial expressions and gestures. For this project, macro expressions as well as micro expressions were studied. Micro expressions are described as expressions that occur when people try to hide their emotions. This understanding was crucial to the project to create emoticons that included these unique expressions.

Author Bahar Gholipour in his recent article "Happily Surprised! People Use More Facial Expressions Than Thought" examines twenty basic and compound facial expressions. He discusses a study, where researchers have outlined 21 unique facial expressions that we use. This research was carried out using a high accuracy computer model that looks for subtle changes in facial muscles to define these expressions. This finding helps understand the need for combination emotions such as sadly angry, boringly tired.

*Software knowledge and Technology*

In the book "Handbook of Usability Testing: How to Plan, Design, and Conduct Effective Tests" by Jeffrey Rubin and Dana Chisnell discuss the need to create an easy to use app. They explain the methodology required to start user testing for beginners as well as advanced researchers. Rubin et al also provide many practical tips and ideas on how to improve testing. For this project, it was essential to understand the audience, their needs and motivations to design an ideal application.

Other significant components are the emoticon or facial expressions. To gain a better understanding of how to create emoticons, which have a cartoony as well as a detailed look; varies looks were investigated.

Author Christopher Hart in his bestselling book, “Modern Cartooning: Essential Techniques for Drawing Today’s Popular Cartoons” demonstrates ways to create cartoons inspired by our daily lives. He provides a step by step guide to drawing cartoons and various facial expressions.

# Process

The timeOut mobile application was designed considering the recommended best practices in interaction/information design. Designing an engaging interface with researched behaviors was the main focus.

The development process was iterative and changes were based on user experiences and feedback. To showcase the app features, a prototype was developed using "Prototype on Paper" (POP - an iOS app). Additionally, an introductory video was created using Adobe Illustrator, After Effects and Premiere Pro. All the project related research, process descriptions and introductory documents were uploaded to a project blog (www.tstimeout.wordpress.com). All these assets were designed in Adobe Photoshop and Adobe Illustrator.

*Stage 1 - Branding*

This step involved brand and vision creation for the application. The color palette was chosen keeping the target audience in mind (young adults) (fig.1).
The prioritization of colors hints towards the importance of a strong foundation in any field of study and the importance of creating a user-friendly interface/experience. In this app, the cooler shades of blue represent boredom and annoyance, whereas the warmer colors depict anger and anxiety. The base color yellow-orange represents attentiveness.

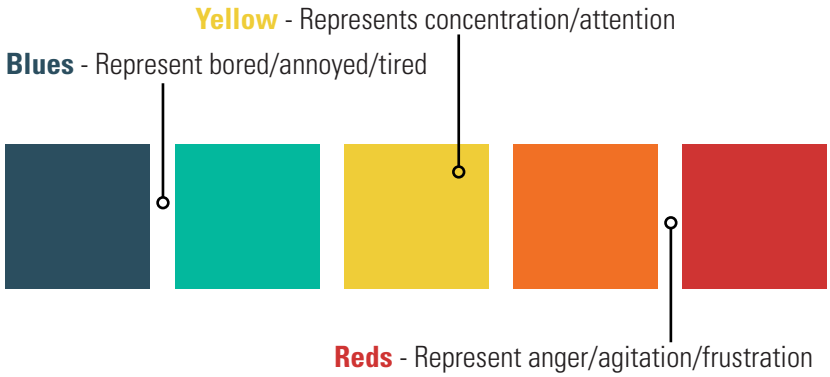



*Figure 1: timeOut Color Palette*

Kenyan Coffee and Cooper Hewitt (fig.2) were the selected typefaces (geometric and legible sans-serif typefaces).Kenyan Coffee works well for headers whereas  Cooper Hewitt as body text. These typefaces are open, friendly, and a well suited for this application.

**Kenyan Coffee - Titles and Headers (Call-to-Actions)**

Cooper Hewitt Light & **Cooper Hewitt SemiBold** - Body Text

*Figure 2: timeOut Typeface Selection*


*Figure 3: Early Logo Concepts and Sketches*

The inspiration for logo and other designs: (fig.4)

1. Friends chitchatting, social gatherings
2. Timer, time running out, clock ticking
3. Smiles, cup of coffee, t - time and O - out


*Figure 4: A sampling of Early Logo Designs*

*Stage 2 - Early Concepts*

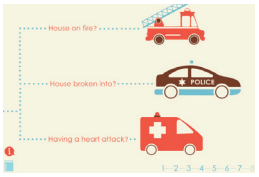
Various design styles and resources were explored and finally based on user feedback, logo (fig.5) was finalized. It contains the mood slider, a time ticker and the top view of a cup of coffee. The slider represents the change in mood (internally consistent with the app) and the logo name "timeOut."The selected logo worked well with the engaging interface and overall design of the app.

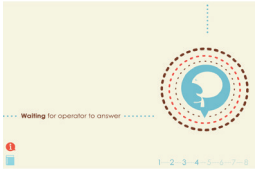

*Figure 5: Final timeOut Logo*

*Design Inspiration/Personal Style*






In this phase, based on the finalized "brand," various ideas for the mobile application were planned/designed. Various design and illustration styles were explored and tested to suit the project's needs. On further exploration, some styles worked better than others based on feedback from peer, thesis committee and expected users.

A Mind Map diagram (fig.6) was developed to visually represent ideas/ information. The goal was to combine design with technology and figure out how they can be used in reducing smartphone addiction. Various methods like haptic, voice, location and gesture-based notifications were researched. User habits were studied to determine most frequently performed tasks.

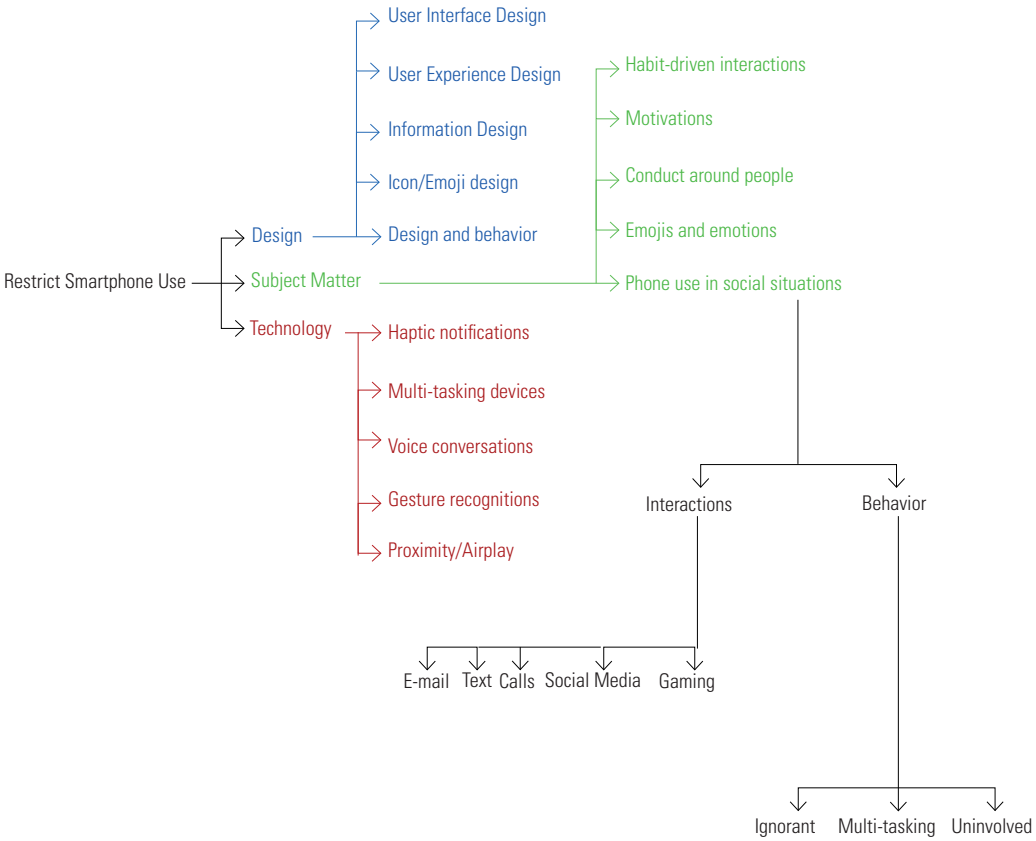



*Figure 6: Mind Map Diagram*

A base flow chart (fig.7) was created to establish the high-level interactions for the application. Rough wireframes were designed based on the flow chart. This process was iterative and received continual refinements based on user feedback and observations.

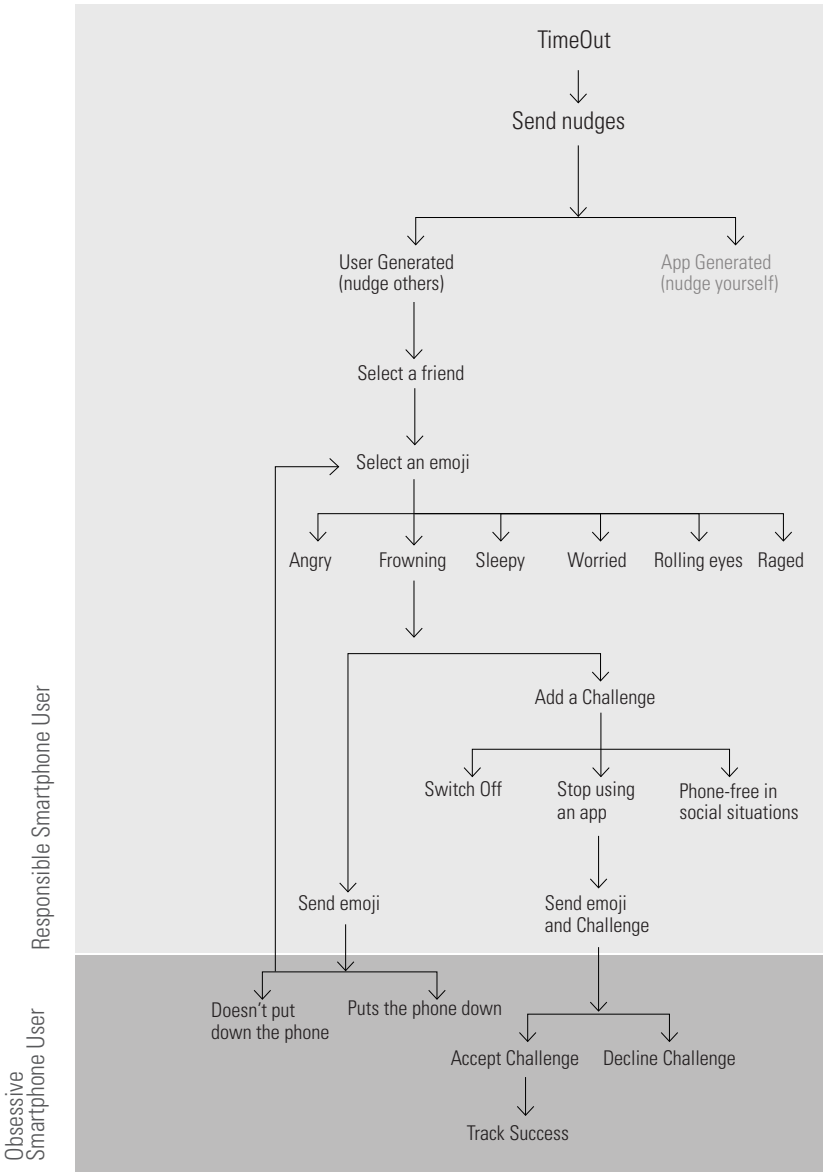



*Figure 8: Flowchart Diagram*

# User Flowchart

*User Workflows*

It is important to design user workflows and understand user needs. The workflow diagram depicts a series of actions that describe the task in-hand. It visualizes task stream and the actions required to move forward in the app.

Two unique users were identified:

1. Individuals that would like their phone obsessed friends to halt their device addiction in social situations (fig.8)
2. Users addicted to their smart phones (fig.9)

Goal: Design a simple, efficient and un-intrusive application for the above users.

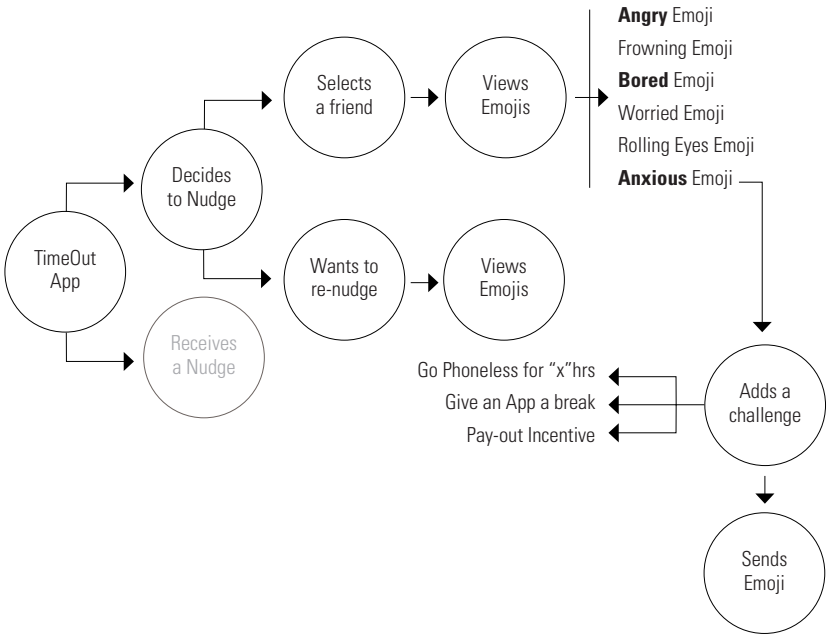



*Figure 8: Workflow: Responsible Smartphone User*

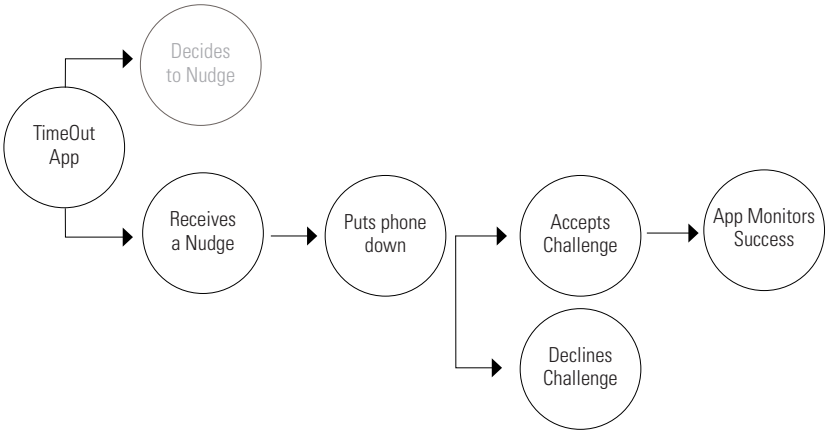



*Figure 9: Workflow: Obsessive Smartphone User*

Next, personas were created to simulate users and to design the application to satisfy needs.

# User Personas

*Responsible User*

**Neil Anderson, 24**

"The Internet is so big, so powerful and pointless that for some people it is a complete substitute for life."

| | |
|---|---|
| **Background:** | Environmental journalist and Innovation Earth columnist |
| **Lifestyle:** | Lives in an apartment in Boston. Enjoys discovering the local shops and entertainment in the city. |
| **Personality:** | Playful, responsible, sensitive and selfless |
| **Interests:** | Backpacking, entertaining, socializing |
| **Goals and tasks in relation to app:** | Hates having to have a conversation with someone when they are busy browsing their phones. Wants his friends to be aware of their habit-driven interactions, but doesn't want to confront them. |
| **Environment:** | Relaxing and unwinding at a coffee shop |

*Obsessive User*

**Jennifer Smith, 22**

"Smart phones and social media expand our universe. We can connect with others or collect information easier and faster than ever."

| | |
|---|---|
| **Background:** | Just started her first job as an architect at SHoP architects. |
| **Lifestyle:** | Lives in a studio in Manhattan. Loves socializing, parties and is a fashionista. |
| **Personality:** | Amiable, sociable, spontaneous, dominating and emotional |
| **Interests:** | Shopping, meeting with friends. exploring new places |
| **Goals and tasks in relation to app:** | Is hooked to her phone. She is gradually getting disconnected from the world. She has gotten her friends annoyed and walks into people while browsing her phone. |
| **Environment:** | Is always multi-tasking |

# Wireframes

*Stage 3 - User Interactions and Visual Designs*

One of the primary goals of the application was the ease with which a user could send emojis, therefore a lot of effort was put into creating wireframes (fig. 10). A prototype was designed, ease of interaction and simplicity were the main focus.

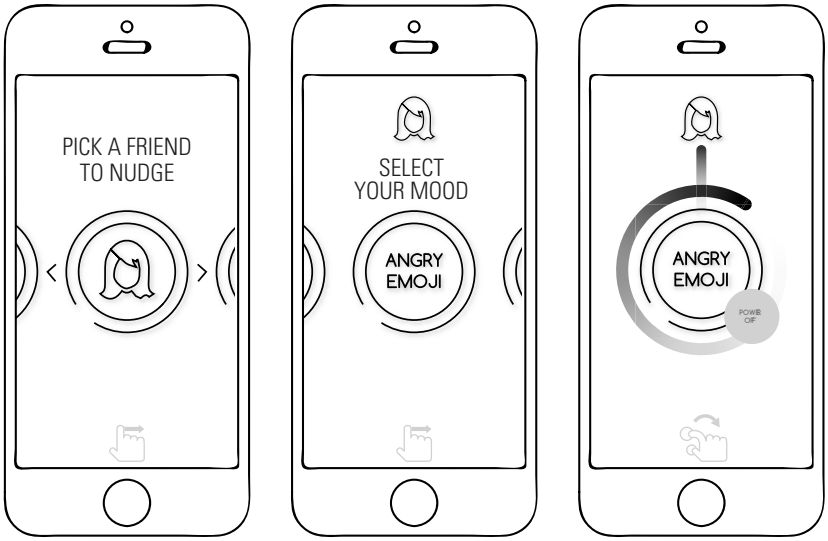



*Figure 10: Initial Preliminary Wireframe*

The ability to send a timeOut is the primary goal of the application. Therefore it is important to visually indicate this to users (fig.11). The hand gestures are indicated on the wireframes. Different gesturing methods were experimented with to determine the most efficient method of interaction.

The other objective of this app was to motivate users to reduce excessive smartphone usage. The phone-addicted users used their devices for three main reasons:

1. Browsing on social media portals
2. Texting and making calls
3. Gaming

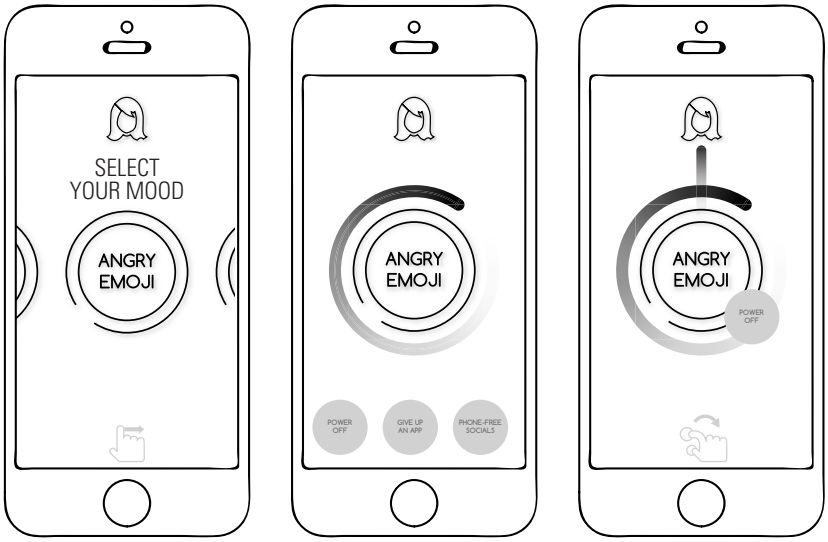



*Figure 11: Three Challenges*

In order to address the above issues and accomplish the goal of motivating users to put down their phones, three unique challenges were designed (fig.11):

1. "No games or apps challenge"
2. "Phone-free challenge": Challenge your friends to avoid their phones for "x" minutes.
3. "Monetary rewards": You get awarded for "non usage" over time.

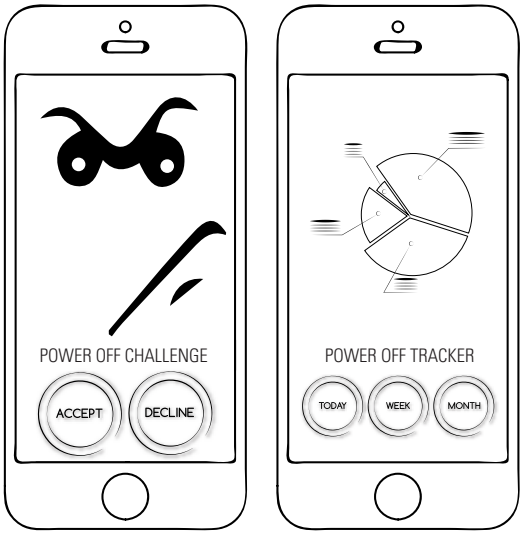



*Figure 12: Accepting Challenges*

The emoji takes over their screen and they are made aware of their behavior (fig.12). Next, they have an option to accept a challenge or wait a few seconds and decline. Once they accept the challenge, the app tracks their usage and notifies them when they try to give up on the challenge.

*Stage 4 - Moods and Emoticons*

Once the basic framework of the project was established, the next step was to define the most important feature of the application - the representation of different moods. The goal was to make the emoticons expressive and playful in order to convey a message in a passive aggressive way. Different approaches were experimented (fig.13).

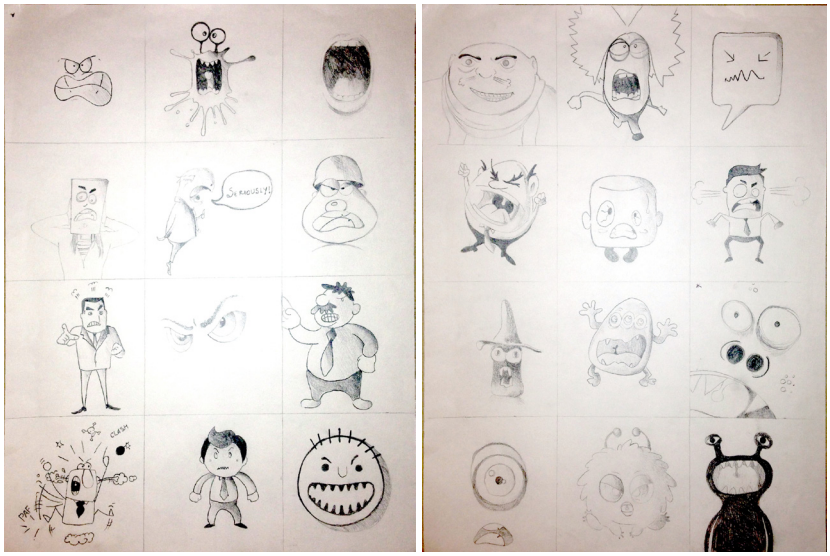


*Figure 13: Various Style for Moods/Emojis*

The next step was to explore various design styles for an emoticon to determine which was the most impactful. Three different moods - anger (fig.14), boredom (fig.15) anxiety (fig.16) were shortlisted. The second mood was selected for the project. Research shows that people express negative emotions with their eyes.

Therefore, after review and user feedback an emoji with expressive eyes showcasing boredom was selected.

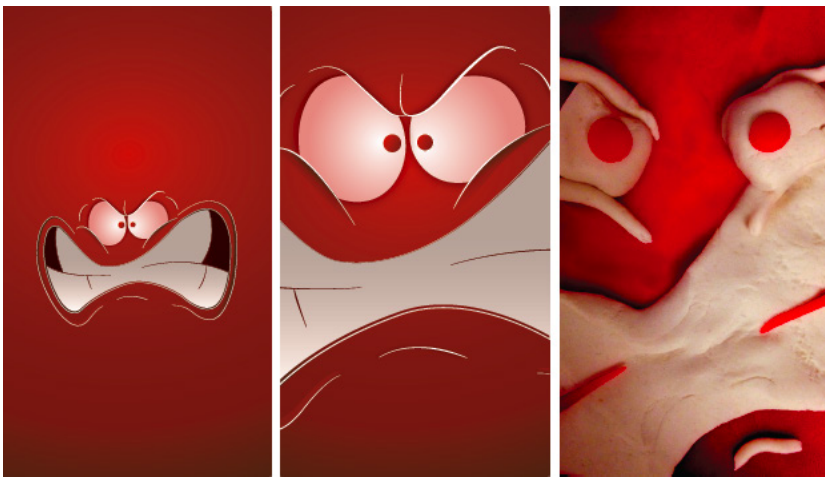


*Figure 14: Mood - anger*

*Figure 15: Mood - boredom*

*Figure 16: Mood - anxiety*

Conception of preliminary interaction and visual design was the main focus of this step. The iOS guidelines were studied to ensure that the designed application was internally and externally consistent. This process involved defining the UI elements as well as interactivity for various features. Various aspects like tool tips, dynamic indicators and event based color changing buttons were also finalized and implemented (fig. 17).

*Figure 17: Buttons and navigation*

# Interactive Prototyping

*Stage 5 - Hi-fidelity Wireframes*

The high fidelity wireframes divulge the design decisions. The decisions were based on research, advisor review and user testing. App navigation was designed linearly and minimal to allow quick turn around. Components were designed to ensure users spend very little time interacting with the application.

A four-step walkthrough (fig.18) was designed to allow users to better understand the app and its features.

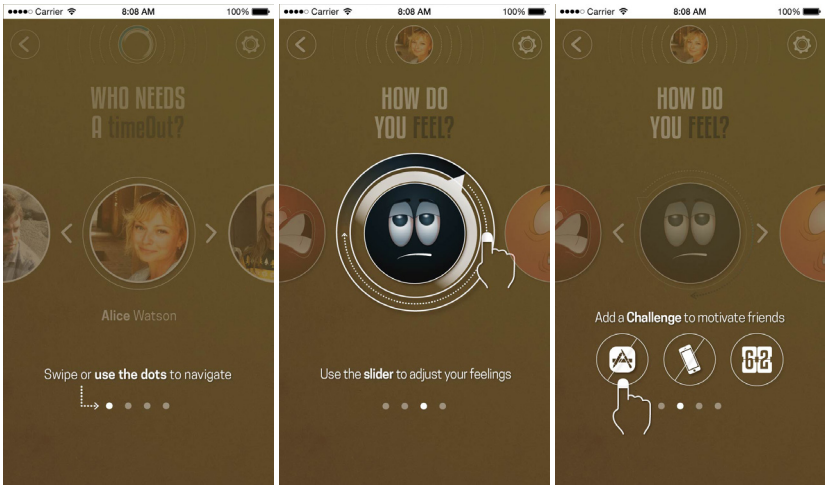



*Figure 18: App walkthrough*

First, the user must choose a person to send a timeOut to. They can choose a person from their iPhone contacts who is in close proximity (50m radius) or use the search function to look for friends (fig.19).

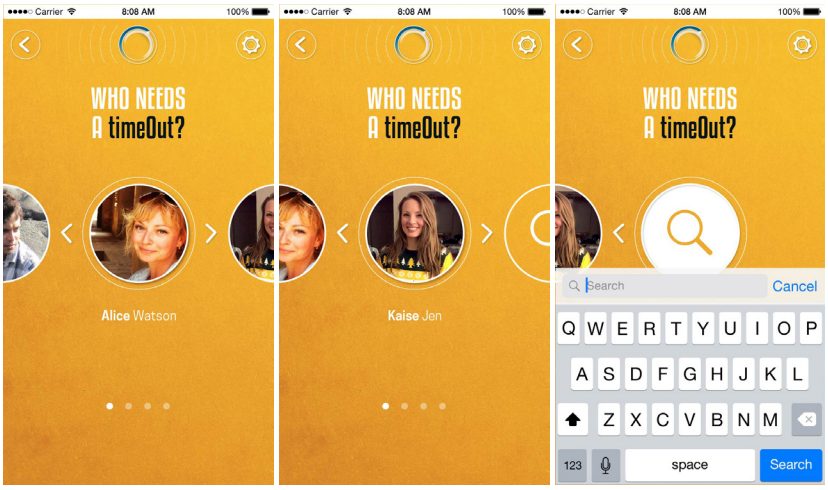



*Figure 19: Choose a person to send a timeOut*

Next, users must select an emoji to express their emotions. They can choose from six moods (fig.20):

1. Frustration
2. Boredom
3. Anxiety
4. Worried
5. Rolling eyes and
6. Raged

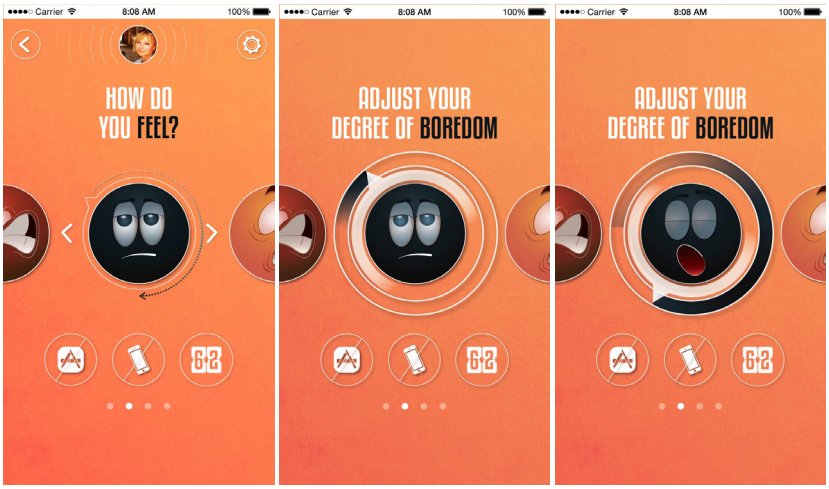



Figure 20: Select an emoji

Users can then add a challenge to their timeOut to motivate their friends to put down their phones. Users have an option to choose from three unique challenges (fig.21):

1. **App challenge:** The recipient avoids social or gaming apps
2. **No-Phone Challenge:** The recipient needs to put down their phone for 30 minutes or until they are with the user and
3. **Reward Challenge:** The recipient earns a cent per minute at the nearest cafe and the user can give the recipient a one dollar incentive

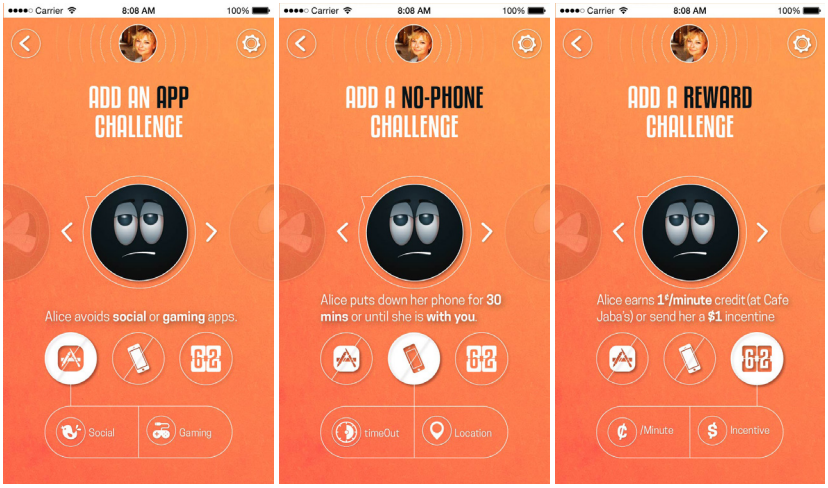



*Figure 21: Three unique challenges*

Finally, the user can review their timeOut, adjust the duration and swipe to send (fig.22) it to their phone-addicted friend.

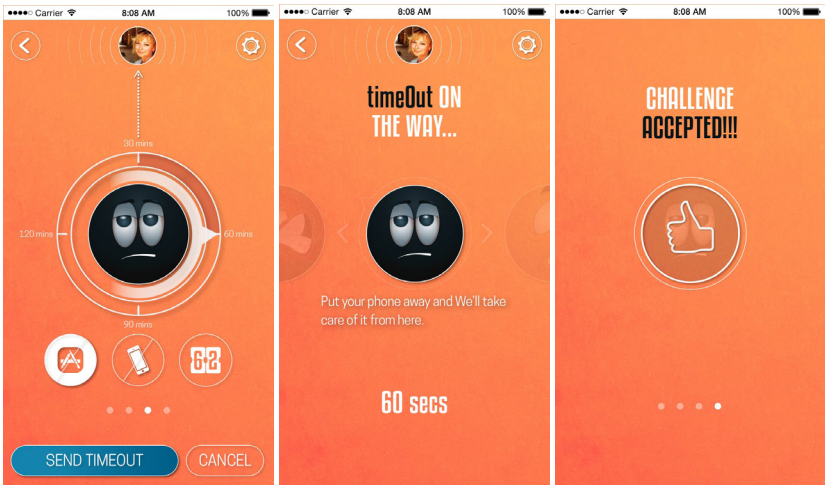



*Figure 22: Select the duration of timeOut*

The phone-addicted friend receives the timeOut and a challenge. They can accept the challenge or wait 15 seconds to decline (fig.23).

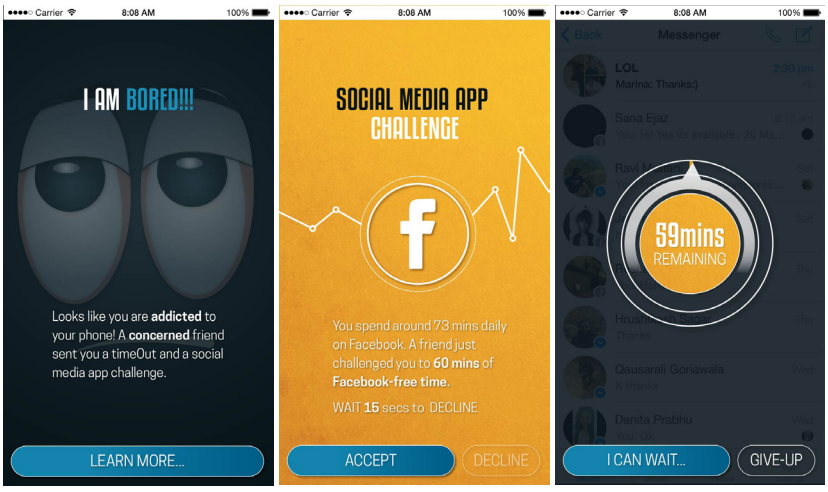



*Figure 23: Person receives a timeOut and challenge*

Due to the limitations in time-line and scope of this project, all the moods, challenges and the ability to track challenges were not developed. Nevertheless, the proof-of-concept for all three features was realized. Users were able to experience various features successfully and provide feedback.

*Stage 5 – Prototype & Promotional Video*

Once the designs were finalized, it was crucial to introduce interactions to bring the project to life. The prototype was used to demonstrate the overall user experience and interactions of the tool. This allowed for review and testing of the navigation and layout, as well as the application from a holistic point of view (fig.24).

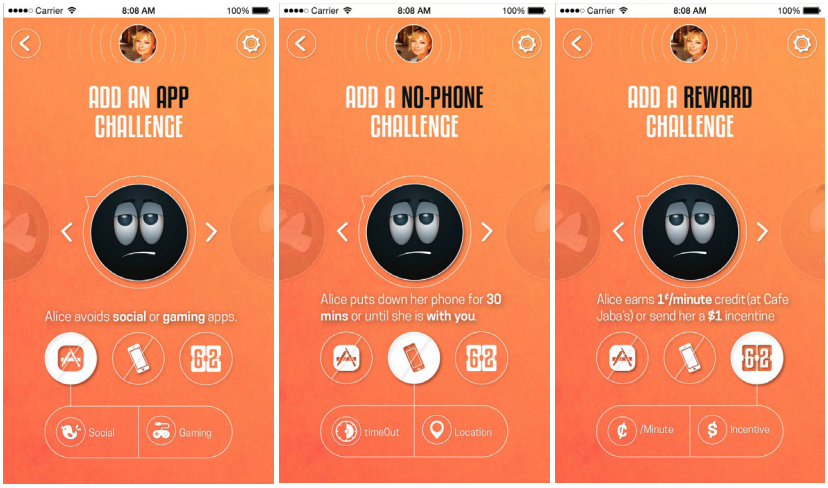



*Figure 24: Interactive prototype*

After much training and trial and error, an interactive proof-of-concept was built with the prototyping application Prototype on Paper (POP) (fig. 25).
The high fidelity designs were customized for the application. This included designing various states for buttons and other interactive elements.
This proved to be somewhat problematic, as the use of high quality images increased the initial prototype load time as well as the application has it's own restrictions. It did not allow for different button states so multiple screens were created to compensate for it. In hindsight, POP was better suited for the creation of a lower fidelity prototype.

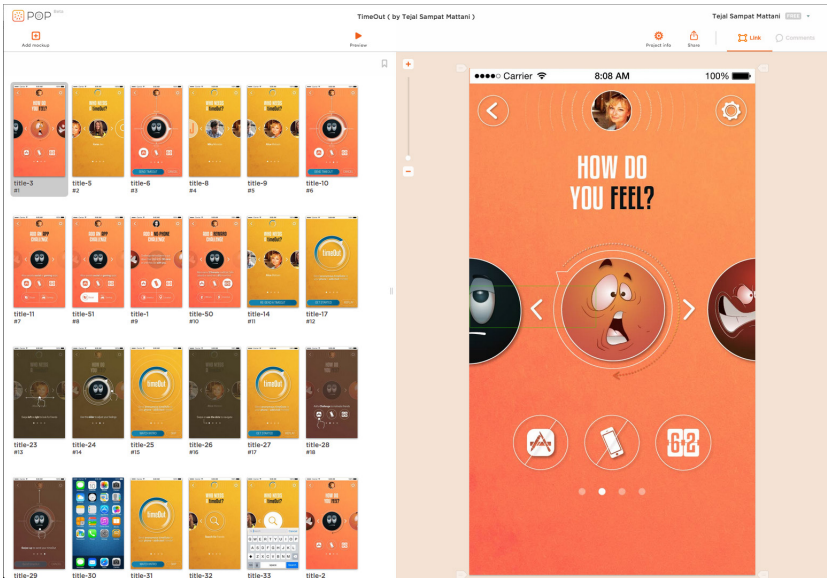



*Figure 25: Creating interactive prototypes in POP*

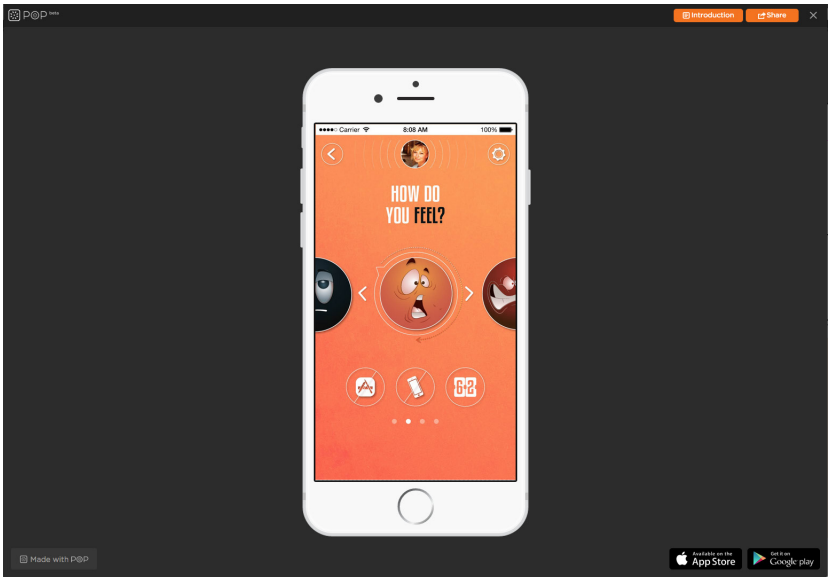



*Figure 26: Basic interactive prototype*

For this project, there was a need to create a prototype with more interactions than what POP could provide. Thus, an interactive proof-of-concept was built with the prototyping tool Axure (fig. 27). Most assets were taken from the high fidelity designs and exported as individual images to be used in Axure. This included creating multiple states for buttons, sliders for emoticons and other interactive elements. The high quality images increased the initial prototype load time. Thus, lower resolution images were used to allow for reasonable load times. The revised prototype was far more superior and very successful in effectively demonstrating complex interactions and served its chief purpose as a proof-of-concept.

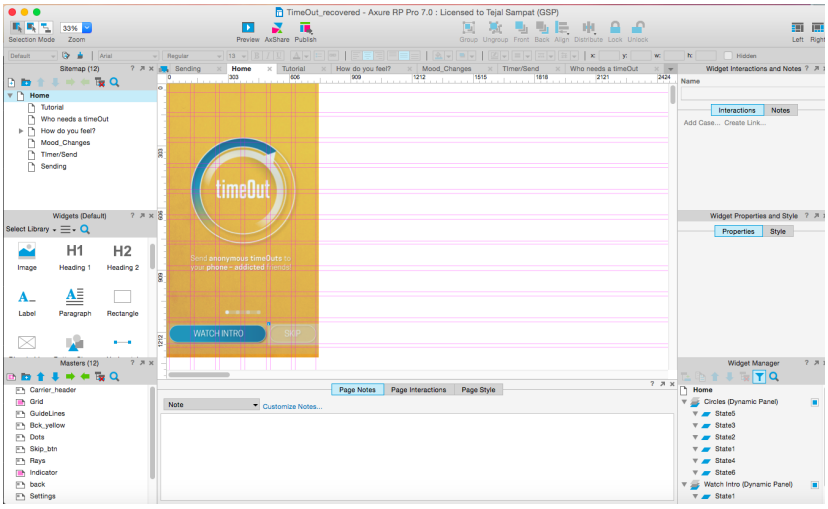



*Figure 27: Creating prototype in Axure*

The HTML5 app demo is incorporated into the Axure project itself, which allows additional interactivity and adds realism to the prototype (fig.28). The prototype demonstrates the slider feature to change the degree of emotions and how it can be used motivate users.

Assets for the prototype were created in Adobe Illustrator and Adobe Photoshop and exported out as pngs. Animations for the prototype were created using the dynamic panel feature in Axure.


*Figure 28: Demoing Axure Prototype*

# Promotional Video

A promotional video was created to supplement the interactive prototype and demonstrate features which was not stimulated in the prototype. The video demonstrates the scenarios in which the app would prove beneficial.  Assets for the promotional video were created in Adobe Illustrator, After Effects and Premiere Pro. The preliminarily step was to create a story board to demonstrate the storyline and understand the requirements, actors, plots and duration. The storyboard was created using the Bitstrips web application (www.bitstrips.com).

The scene opens with friends sitting at a coffee shop, catching up and having a great conversation. The camera gradually zooms in (fig.29) to focus on the group of friends.

*Figure 29: Scene 1 - Friends chitchatting*

Just then, one of them receives a call and gets busy. Her friend waits patiently, eventually gets restless and annoyed. The shot jumps between the smartphone user and her friend(fig.30) to emphasize on the annoyed person's agony.

*Figure 30: One of them is busy in the phone*

After waiting endlessly, annoyed friend pulls out the phone and decides to send a timeOut (fig.31)

*Figure 31: The person on the left gets annoyed*

He selects the person to send a timeOut, selects a mood and swipes up to send. The annoyed friend then puts the phone back in the pocket (fig.32) and waits for his friend to receive it.

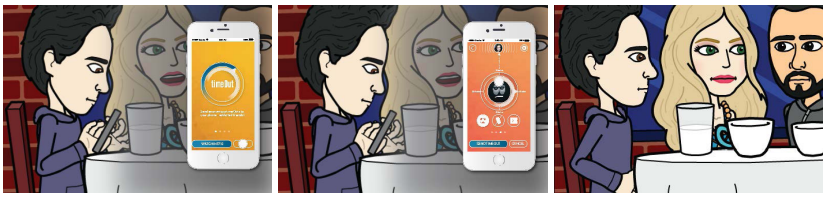


*Figure 32: Sends a timeOut using the timeOut app*

As soon as the friend receives a timeOut, she feels apologetic and puts down her phone(fig.33). Finally, they go back to having a conversation.

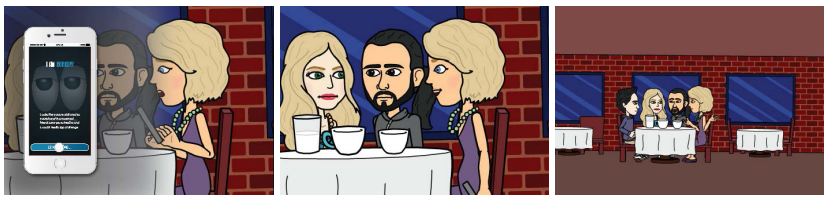


*Figure 33: Person on right receives a timeOut*

Once the storyboard was created, the next step was to draft the voice-over and recruit actors. The storyboard provided a better understanding of which individuals would work best for the video. For the promotional video, four classmates were asked to enact various scenes.

The shoot was faced with multiple challenges along the way. Initially, it was cumbersome to co-ordinate everyone's availability. Additionally, it was raining all week so artificial lights were arranged to ensure proper lighting and reflections.

As the application is just a prototype, it was difficult to stimulate a real-life interactions and a mock pdf (fig.34) was created to guide the user (responsible one - sending the timeOut) through various hand gestures needed for the shoot. Multiple takes were required to get the right reactions and responses.

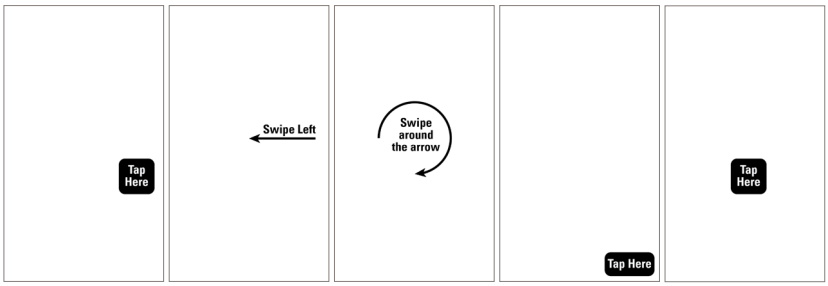



*Figure 34: Interactive Mockup*

The most challenging shot was the one where the camera pans from the user sitting on the extreme left of the obsessive user on the extreme right (1:08 minutes). A DSLR and a tripod were used for this shoot; the resulting pan effect wasn't completely smooth or consistent and the unstable tripod led to a jerky scene. These scenes were then edited in After Effects and a warp stabilizer was applied to stabilize the above scene and a few other shots.

Some color correction was also needed to correct the poor lighting and hard shadows.

Finally, it was important to match the visuals and the voice-over. Thus, some time remapping was done to create symphony between the two.

# User Research

*Stage 6 - User testing and data gathering*

Throughout the process, feedback was collected from a variety of audiences. The testing and review process included thesis advisors, RIT faculty, peers and RIT students between the age of 18 - 24 years from various ethnic backgrounds. Three different user testing methods were conducted, each took a different approach and aim on achieving various goals. All three studies, were conducted within the IRB guidelines (Appendix B).

The first user study consisted of an online survey and had fifteen participants. It investigated commonly used applications, the frequency of smartphone usage and an individual's point of view on excessive smartphone use in social situations. The survey results provide information on the different methods people use to reduce their smartphone use and how they confronted someone obsessed with their phones. All users were RIT students between the age of 18 – 24 years of mixed gender and ethnic backgrounds. The feedback was collected through a written survey and multiple choice questions. Users were asked to provide basic information about themselves and their phone related habits. This survey also helped in evaluating various participants and eight of which were invited to participate in a one-on-one interview.

For the second user study, expected users evaluated the partially interactive prototype. Users were given five different tasks and asked to complete them. Users were asked to evaluate the following elements in the timeOut application:

1. Various features in the app,
2. Different moods,
3. Challenges they were likely to use,
4. Their overall impression of the application and
5. What they would like to change in the app

The results revealed that the participants were anonymously intrigued by the concept of the app and seven out of eight users were most likely to use the app and recommend it to their friends in the future.

The users were asked to rate the likeliness of them using the app on a scale of 1 (not likely) to 10 (extremely likely). The application was ranked a strong nine.

The design, graphics and the workflow worked for the targeted audience and when asked what they would like to change about the overall design, users anonymously replied they liked it as is.

User testing revealed that users had few technical issues with the prototype as they were unable to use certain features. All users suggested the need for a walkthrough (fig.35) to explain the various components within the app. Three out of eight users had difficulty understanding certain challenges and their benefits. Users adding a label under each emotion, but when asked what each mood represents, they were able to identify it correctly. The most valuable feedback was the need for a back button. Users suggested they were used to having a back button in most other applications and would like to have the option to go back if they changed their minds.

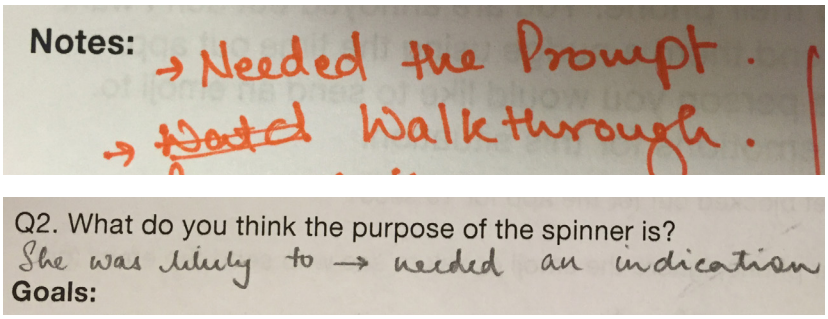



*Figure 35: User feedback*

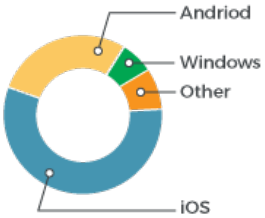
The study also disclosed the features users liked most and the ones they didn't care for. The users liked that the app automatically populated the people around them and they wouldn't have to browse their phonebook to

look for friends. More than half users like the passive aggressive nature of the app. They were likely to use all challenges except for the $1 incentive as they did not like the idea of having to pay from their pockets.

The final approach employed to better understand the users was the Geurilla testing method. It was conducted during Imagine RIT on May 2nd in the Visual Communication Design lab. For this method, a random group of people attending Imagine RIT were selected.

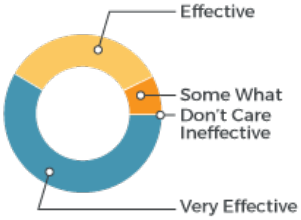
The survey was conducted in a casual and a nonstructural manner. If interested, users were asked to complete a short survey to help evaluate the timeOut application and promo video. The goal was to analyze the effectiveness of the video and clarity of information (fig. 36). Additionally, people were asked to interact with the axure prototype and provide feedback on usability and visual style (fig. 37).

Current OS



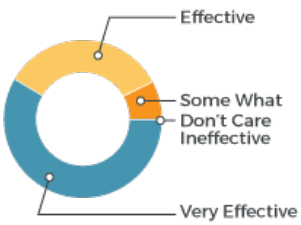

| | | |
|---|---|---|
| **iOS** | **18** | 58.1% |
| **Andriod** | **10** | 32.3% |
| **Windows** | **2** | 58.1% |
| **Other** | **1** | 32.3% |

Visual Style



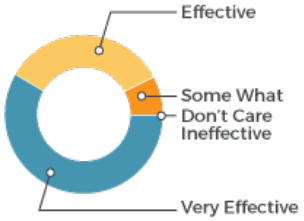

| | | |
|---|---|---|
| **1 - Very Effective** | **17** | 54.8% |
| **2 - Effective Andriod** | **13** | 32.3% |
| **3 - Some what effective** | **1** | 3.2% |
| **4 - Don't care** | **0** | 0% |
| **5 - Ineffective** | **0** | 0% |

Clarity of information




| | | |
|---|---|---|
| **1 - Very Effective** | **16** | 51.6% |
| **2 - Effective Andriod** | **12** | 38.7% |
| **3 - Some what effective** | **3** | 9.7% |
| **4 - Don't care** | **0** | 0% |
| **5 - Ineffective** | **0** | 0% |

Usability




| | | |
|---|---|---|
| **1 - Very Effective** | **13** | 41.9% |
| **2 - Effective Andriod** | **14** | 45.2% |
| **3 - Some what effective** | **4** | 12.9% |
| **4 - Don't care** | **0** | 0% |
| **5 - Ineffective** | **0** | 0% |

Results from the third testing indicated the participants responded positively to the aesthetics of the project. They ranked the app effective and very effective. Verbally 80% of the users said they liked the concept and they would definitely use the app if it was available on the App store. Every user had been in a situation where they were confronted or had confronted someone for excessive smartphone use. 10 of 31 users suggested that they would use this app to restrict their child's smartphone use. 5 of 31 suggested they would use the application to timeOut their partners or spouses.

All users were also asked to suggest improvements or any additional features they would like to see in the application. Below are some improvements users suggested:

**For the Axure prototype:**

*"Make the home screen clickable so I enter the app directly"*

*"After setting Bordem level, change screen to challenge selection."*

*"Have a tool tip option"*

**For the promotional video:**

*"At the one min mark, the audio and visuals were too quick for me. Consider slowing it"*

When asked to rate the visual design, 30 of 31 gave a high ranking and commented that they really liked the look and feel of the app. Users were curious about the technical aspects required to implement the application. The survey provided mixed feedback on the usability of the application and its goals. Two users felt they would need to use the app a couple to times to understand all features and techniques. 4 of 31 users rated the app somewhat effective and the reason behind the low ranking were the non-functional features within the app.

Overall, the outcome of all user testings and interviews was informative. The aesthetic and visual design was ranked well. The results and discussions indicated that people were intrigued to tryout the application as well as recommend it. As intended the users, were likely to use the application rather than embarrassing a phone-addicted friend in public. Although, expected users were unsure, how much they would benefit from the app in an educational or a corporate setting.

Suggestions for areas of improvement pertained mainly to the usability flaws in the application. The feedback gathered from the first user testing session relied heavily on the workflow, the second on the visual design and usability and the third on first impressions and aesthetics. The timeOut app was continually modified throughout the process with the aim to create better user experience. Feedback from the first survey reflected in the second version and so on. Going forward, timeOut will need continuous improvement as the needs of the users change.

# The Solution and Conclusion

The timeOut app utilizes innovative and interactive techniques to help reduce smartphone use. It allows individuals to send "timeOuts" to make their smartphone addicted friends aware of their behavior. TimeOut is an enjoyable, playful and innovative way of making people aware of their habits. The various challenges in the app help motivate users and rewards them when they complete the challenges successfully. This creates an environment that encourages conversation and change in social conduct over time. TimeOut is a smart and efficient way of placing importance to face-to-face conversation.

This concept has potential for growth. Future work could consist of technical enhancements to improve app performance. Ensuring privacy of information is also important. Users should be given the ability to control the information the application collects by an opt-in interface.  A later version may also incorporate self-timeOut feature. The app can also be used in more formal settings like classrooms or corporate meeting. Some additional features may include the ability to send personalized messages.

Extensive research, the iterative design process and problem-solving that went into the project provided me with a better understanding of information and user experience design. Integrating a variety of deliverables for the project helped me reinforce and acquire skills in these areas.

The timeOut app has given me a better understanding of design, communication and human behavior. Design can bring about change and good design can convey messages effectively.

# Appendices

Appendix A. Original Thesis Proposal

Appendix B. IRB (Institutional Review Board for Protection of Human Subjects) Documentation and Approval

Appendix C. Web-Based User Survey with Results

Appendix D. User Interviews

# TimeOut

Influence of user experience design
on behavior to reduce smartphone use

**Tejal Sampat**

A Thesis Proposal for
Masters of Fine Arts Degree

Rochester Institute of Technology
College of Imaging Arts and Sciences
Visual Communication Design
Rochester, NY

**Title**

TimeOut: Influence of user experience design on behavior to reduce smartphone use

**Submitted by**

Tejal Sampat
Oct 28, 2014

**Approvals**

**Committee Members:**

**Chief Advisor** Date
Chris Jackson
School of Design

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**Associate Advisor** Date
Shaun Foster
School of Design

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**Associate Advisor** Date
Nancy Ciolek
School of Design

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**Associate Advisor** Date
Evan Selinger
Department of Philosophy

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# Abstract

We are more connected than we used to be but people are becoming disengaged from the real world. Are smartphones a blessing or a bane? That depends on how we use it. Being hooked to a smartphone while interacting with family or friends is a definite no-no.

To address this issue, I propose designing an application that allows neglected users to send anonymous nudges to obsessive smartphone user that are preoccupied with their smartphones and are in their close proximity. This allows them to express their feelings without upsetting or embarrassing anyone. The application will leverage lean UX methodologies to quantify smartphone usage to make people aware of their distractive behavior.

The goal of the application is to influence behavior through nudges, prompts and challenge the users in making positive behavioral changes.

Keywords: *user experience design, nudges and prompts in design, human-computer interaction, reduce smartphone use, information design, icon design, mobile application, iOS*

# Situation Analysis

In today's fast-paced world, most of us and especially the younger generation are hooked to their smartphones. Many check their phones even before getting out of bed each morning. Throughout the day, people constantly check e-mails, browse the Internet, make calls, send texts, play games, listen to music and take pictures. We are so reliant on our smartphones that we cannot imagine stepping out without it.

Although, smartphones provide many benefits like connectivity, social media, navigation and gaming; habit-driven interactions can distract, interrupt and disconnect one from their surroundings. People ignore the norms of the current social situation and this adversely affects their conduct around other people (For eg. checking their phones at parties or meetings, while others are trying to have to conversation). As research shows, using a cell phone in a social scenario is a contagious behavior and may sway a person nearby to use his or her cell phone.[1]

Can user-centric research be integrated into a mobile application to influence young adults to limit their smartphone usage in social gatherings and situations?

(1) Cell Phone Use Is Contagious, Study Shows. http://www.huffingtonpost.com/2012/12/04/cell-phone-contagious_n_2237628.html

# Problem Statement

Can user-centric research be integrated into a mobile application to influence young adults to limit their smartphone usage in social gatherings and situations?

User-centered design allows designers to create experiences based on a detailed understanding of user needs through observation. It takes into account various dimensions of an individual's  experience, which include emotional needs and motivation. Using this approach, I would like to reduce an individual's smartphone usage in social situations.

I propose designing and prototyping an iOS app that explores ways to reduce smartphone usage via user and device initiated nudges, prompts and challenges. This app will be designed for a particular demography, young adults between the age of 18 to 24 years.

My research aims to answer the following questions:

- Can information and UI/UX design influence social behavior and impact smartphone usage?
- Can user initiated nudges be designed visually to make obsessive smartphone users aware of their distractive social behavior?
- Impact of icons and emojis in such an application?
- Can this objective be achieved with limited interactions in the app?

# Survey of Literature

*Design*

**Lean UX: Applying Lean Principles to Improve User Experience**

In this book, author Jeff Gothelf discusses different UX principles involved in enhancing user experience. He gives insights on prototyping, validating and testing with user and making changes based on your learnings.

Author: Jeff Gothelf
Date: March 2013
Title: Lean UX: Applying Lean Principles to Improve
User Experience

**Designing with the Mind in Mind: Simple Guide to Understanding User Interface Design Rules**

In Designing with the Mind in Mind, a Simple Guide to Understanding User Interface Design Guidelines, author and UI expert Jeff Johnson provides a captivating introduction to the fundamentals of perceptual and cognitive psychology for effective user interface (UI) design and creation.

Author: Jeff Johnson
Date: February 2014
Title: Designing with the Mind in Mind: Simple Guide to Understanding User Interface Design Rules

**Designing Information: Human Factors and Common Sense in Information Design**

Author Joel Katz discusses various aspects of user-interface design and architecture. He discusses methodologies to design complex data and information for meaning, relevance, and clarity. This book provides real life as well as hypothetical examples to better the understand the principles of information design.

Author: Joel Katz
Date: August 2014
Title: Designing Information: Human Factors and Common Sense in Information Design

**Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability**

In this book, Steve Krug provides a fresh perspective on how to re-examine the principles of mobile usability with updated examples. It is a short and profusely illustrated book.

Author: Steve Krug
Date: January 3, 2014
Title: Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability (3rd Edition) (Voices That Matter)

**Designing for Behavior Change: Applying Psychology and Behavioral Economics**

This book talks about how various products are influencing behavior. Whether it's exercising more(jaw Bone Up) or managing your finances(HelloWallet). This guide provides insight on how one can products for users wanting to achieve a goal.

Author: Stephen Wendel
Date: 2013
Title: Designing for Behavior Change: Applying Psychology and Behavioral Economics
URL: http://web.b.ebscohost.com.ezproxy.rit.edu/ehost/ebookviewer/ebook/bmxlYmtfXzY2MDE4OF9fQU41?sid=58c3f698-f453-40e7-a2e0-3c192680c6a9@sessionmgr113&vid=0&format=EB&lpid=lp_1&rid=0

**Nudge: Improving Decisions About Health, Wealth, and Happiness**

This book discuss the use of subtle influences that really effect individual and collective choices and outcomes in our culture and daily lives.

Author: Richard H. Thaler & Cass R. Sunstein
Date: 2008
Title: Nudge: Improving Decisions About Health, Wealth, and Happiness

**Understanding Comics: The Invisible Art**

This is a comic book about comic books. The author, McCloud explains the details of how comics work, are read and understood. Additionally, he talks about how we perceive different visual details in general.

Author:  Scott McCloud
Date: April 27, 1994
Title: Understanding Comics: The Invisible Art

**Emoticons: Useful Tool or Totally Uncool?**

This book discuss the use of hand gestures, facial expressions, volume, pitch, and intonation to interpret situations and conversations we experience. The author discusses how a single emoji can express thousand words.

Author: Guest blogger
Date: Nov 7, 2013
Title: Emoticons: Useful Tool or Totally Uncool?

**Research on Emoticons: Review of the Field and Proposal of Research Framework**

The researcher discusses the use of Emoticons to convey their emotions during online conversation. The research paper explores the difference in use of Emoticons between men and women.

Author: Michal Ptaszynski, Rafal Rzepka, Kenji Araki and Yoshio Momouchi
Date: Nov 7, 2013
Title: Research on Emoticons: Review of the Field and Proposal of Research Framework

*Subject Matter*

**Constant Culture of Distraction**

Is a presentation by Joe Kraus on a topic called "SlowTech". Slowtech is all about finding the off switch and provides resources on the consequences of technology and it's effect on our health. In this presentation he talks about how people are connected to technology and detached from people. He also talks about how we can be more mindful of technology and pay attention to the things around us.

Author: Joe Kraus
Date: May 25, 2012
Title: Constant culture of distraction
Date of Access: September1, 2014
URL: http://joekraus.com/were-creating-a-culture-of-distraction

**Mobile Mindset Study**

This study explores the phantom smartphone twitches people get which include your phone is ringing, buzzing or bleeping even when it's nowhere in sight. It is also believed Americans are emotionally connected to our mobile devices. And how phones are often the first thing we reach for when we wake up, and some of us put more time and TLC into our phones than we invest in our person-to-person relationships. This study analysis human behavior with various activities performed on an iPhone.

Author: Lookout Security
Date: June, 2012
Title: Mobile Mindset Study
Date of Access: September1, 2014
URL: https://www.lookout.com/static/ee_images/lookout-mobile-mindset-2012.pdf

**Connected, but alone?**

In this TED talk Sherry Turkle talks about how our expectation for technology are increasing and from people is decreasing. She discusses how people find it easier to send a text message then strike a conversation and we are expecting technology to behave more human that trying to talk to a actual person. She suggests examining how we can use digital technology to make our life a life we love.

Author: Sherry Turkle
Date: Feb, 2012
Title: Connected, but alone?
Date of Access: September 7, 2014
URL: http://www.ted.com/talks/sherry_turkle_alone_together?language=en

**A Brief Rant on the Future of Interaction Design**

In this article, Bret Victor talks about how hands are supposed to feel and manipulate things and how with technology we are just swiping and tapping on screens. Although the future of technology will be more interactive and virtual, he questions if that's what we really need.

Author: Bret Victor
Date: November 8, 2011
Title: A Brief Rant on the Future of Interaction Design
Date of Access: July 8, 2014
URL: http://worrydream.com ABriefRantOnTheFutureOfInteractionDesign/

**Why Successful People Never Bring Smartphones Into Meetings**

In this article Kevin Kruse talks about the recent research from the University of Southern California's Marshall School of Business, which discusses why high-level executives don't check their phones when at meeting. He suggests that's not only disrespectful, but multi-tasking is a myth and a person can pay attention to one single thing at a time.

Author: Kevin Kruse
Date: December, 2011
Title: Why Successful People Never Bring Smartphones
Into Meetings
Date of Access: September 3, 2014
URL: http://www.forbes.com/sites/kevinkruse/2013/12/26/why-successful-people-never-bring-smartphones-into-meetings/

**Americans Addicted To Checking Smartphones, Would 'Panic' If They Lost Device (STUDY)**

This is an interesting study that analysis smartphone owners who check their phones at least every hour and while in bed or in the bathroom. For the study, the users asked if they had ever lost their phones and how they felt without their phones.

Author: The Huffington Post | By Britney Fitzgerald
Date: June 2012

Title: Americans Addicted To Checking Smartphones, Would 'Panic' If They Lost Device (STUDY)
Date of Access: September 14, 2014
URL: http://www.huffingtonpost.com/2012/06/21/americans-are-addicted-to-smartphones_n_1615293.html

**66% of the population suffer from Nomophobia the fear of being without their phone**

This a an interesting study on the comparative analysis of the increase in users suffering from nomophobia has increased drastically since 2012. Nomophobia is the fear of losing their phone or not having one's phones with themselves

Author: securenvoy
Date: February 16, 2012
URL: https://www.securenvoy.com/blog/2012/02/16/66-of-the-population-suffer-from-nomophobia-the-fear-of-being-without-their-phone/

*Technology*

**How to create and customize vibration alerts on your iPhone**

This a short article on how one can customize vibrations on an iOS device for notifications. One can easily set notifications for say calls, e-mails or text messages. One can also use specific vibrations or turn off phone vibration for specific calls.

Author: Allyson Kazmucha
URL: http://www.imore.com/how-set-custom-alert-vibrations-or-disable-them-your-iphone-and-ipad

**How To Turn Off Smartphone Apps That Track You In The Background**

This article addresses how apps collect your phone data without realizing it. Although all phones allow users to turn off this feature, a lot of people aren't aware of data collection these apps do and thus, give away their information unsuspectingly. This study throws a light on what information people would be ready to share and what information they won't want to share.

Author: Thomas Halleck
Date: August, 2014
Title: How To Turn Off Smartphone Apps That Track You In The Background
Date of Access: September 14, 2014
URL: http://www.ibtimes.com/how-turn-smartphone-apps-track-you-background-1657868

**HTML5: Designing Rich Internet Applications**

This book is a good reference for information and demos on HTML5, specifically its interactive and multimedia capabilities.

Author: David, Matthew.
Date: 2013
Title: HTML5: Designing rich internet applications. Focal

**w3schools.com**

This website offers an expansive library of information about HTML and CSS. It is a great, quick reference for coding.

Date: September 18, 2014
URL: http://www.w3schools.com.

**Foundations of UX: Prototyping**

This tutorial offers information about a number of prototyping options to help the viewer find the right solution for their design. It covers the basic concepts

and goals of a prototype as well as some tools and resources to actually create one.

Author: James Williamson, Lynda.com
Date: September 30, 2014,
URL: http://www.lynda.com/Web-Inter- action-Design-tutorials/Foundations-UX-Prototyping/133349-2.html.

**Creating an App Walkthrough in After Effects**

This tutorial presents an overview of how to create a proof of concept for an application using motion graphics.

Author: Jesse Snyder
Date: October 12, 2014
URL: http://ae.tutsplus.com/tutorials/motion-graphics/quick-tip-creating-an-app-walkthrough-in-after-effects/

**Axure**

This tool enables you to make interactive HTML prototypes of websites and applications. It allows you to design and sketch right within the program. This is a good tool because it would allow for relatively quick and effective user testing.

URL: www.axure.com

**POP app**

Hand-drawn wireframes to tappable app prototypes. POP helps you make interactive prototype with ease. The workflow is simple:
design on Paper, take Pictures, link and test.
URL: https://popapp.in/

*Comparative Analysis*

**RescueTime (website/software)**

Tracks the amount of time you spend on various sites and sends you alerts when you've been on a particular site too long.

**The Habit Factor (app)**

Helps you develop any habit necessary to achieve any goal you set for yourself by monitoring your relevant activities

**The Lunecase (hardware)**

Is an iPhone cover meant to not only protect your phones from damage but also notify you of incoming calls and text messages before your iPhone screen shows it to you using electromagnetic waves.

**Moment (app)**

Tracks how many minutes you use your iPhone or iPad , the number of times you pick up your iPhone each day and where you check your phone (GPS location).

**21 Habit(website)**

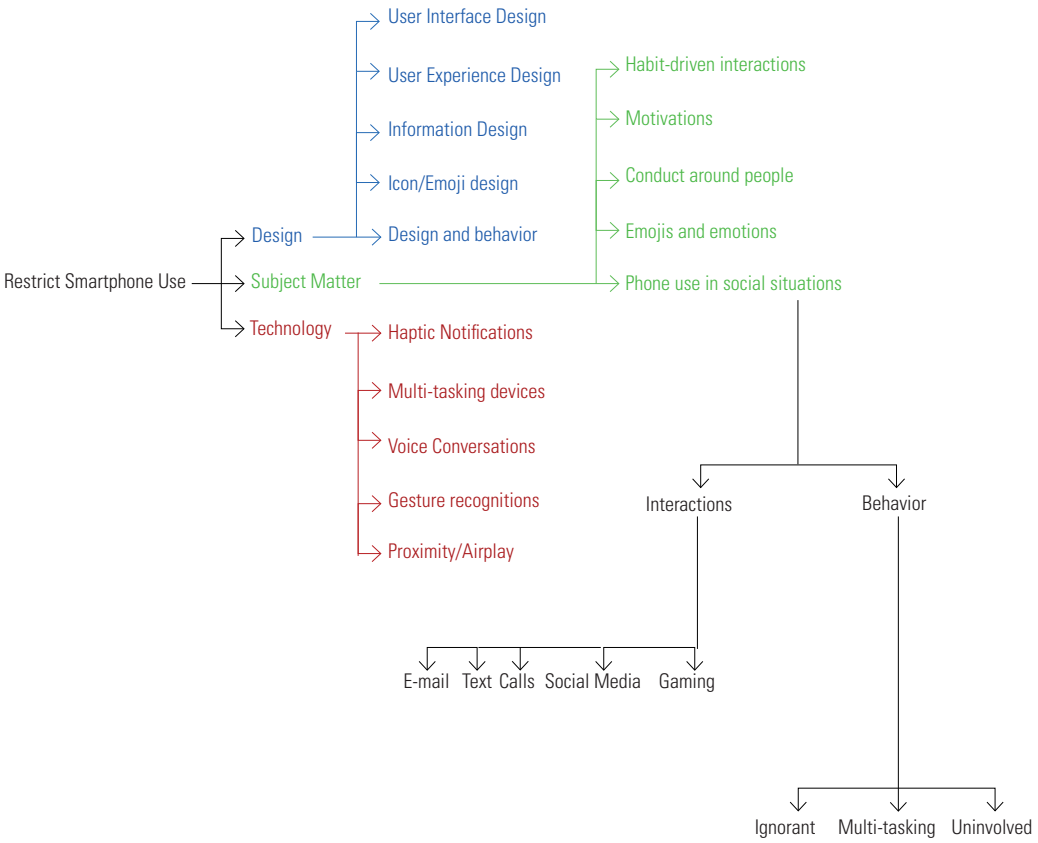
Lets you develop a habit as it has you check in every day for 21 days. When you miss a day, a dollar is donated to a charity. If you meet all 21 days, you earn back the $21 you put into it at the start. It is based on idea that one can make a habit in 21 days.

**Checky**

Monitors how many times you check your phone. This awareness can help you make changes to your phone usage.

# Design Ideation

*Mind Map*




*Main Components*

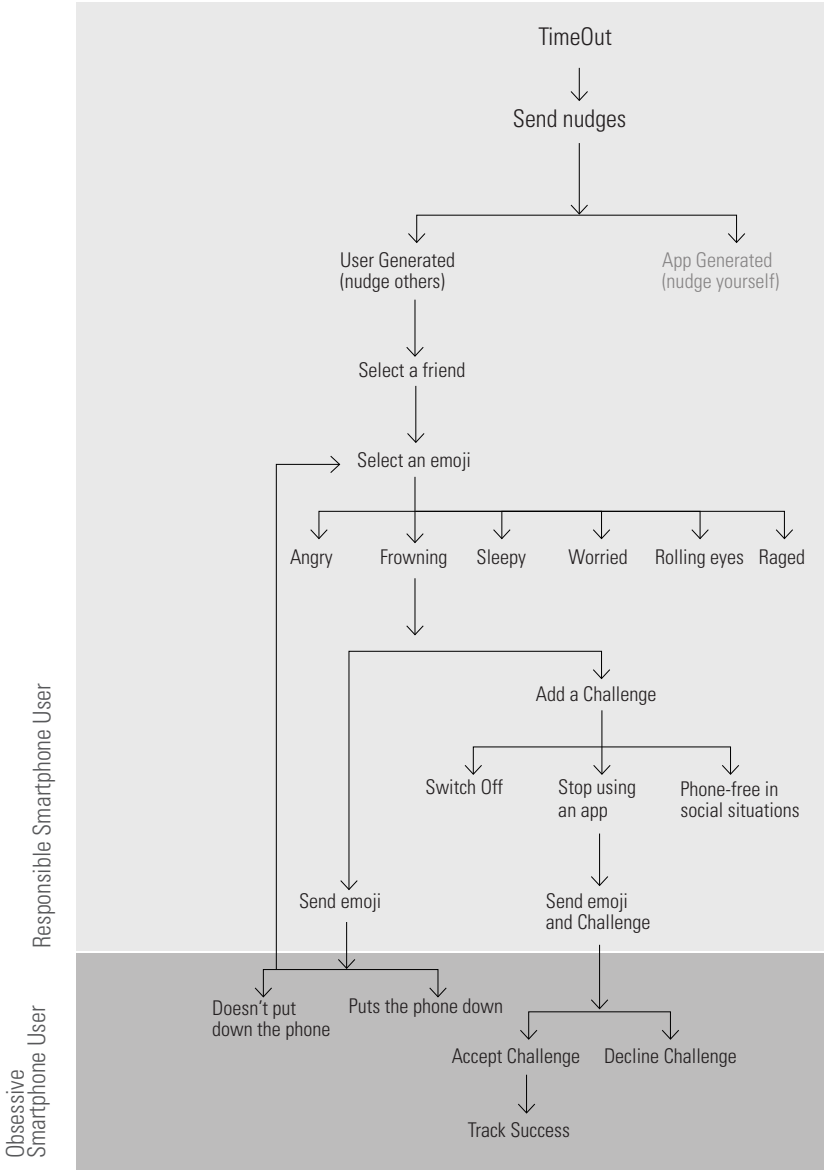
**Anonymous User:**

- Sends emoji's: Visual design for emojis, UI/UX for the sender and icon design
- Sends Emoji + Challenge: UI/UX for the sender & icon Design

**Reciever:**

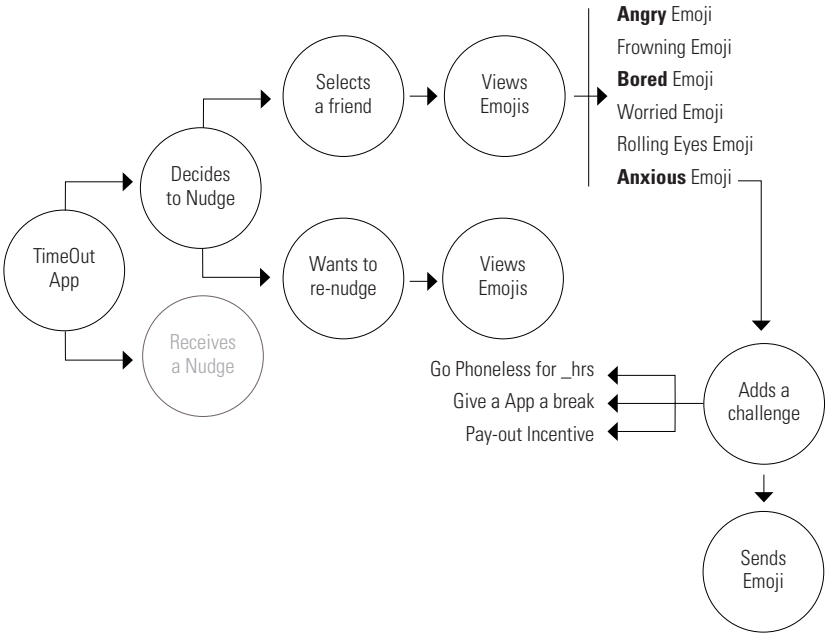
- Recieves emojis: UI/UX for recieving
- Information design for challenge

*Information flowchart*

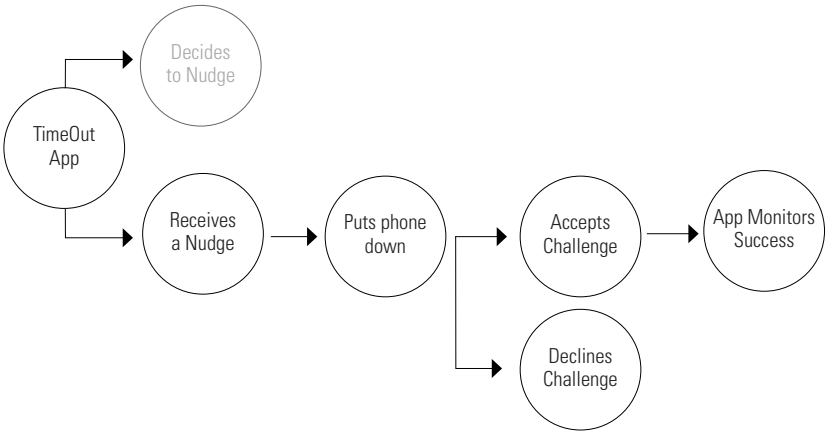


*User Workflows*

*User Workflow1: Responsible Smartphone User*




*User Workflow 2: Obsessive Smartphone User*



# User Personas

*Responsible User*

**Neil Anderson, 24**

"The Internet is so big, so powerful and pointless that for some people it is a complete substitute for life."

| | |
|---|---|
| **Background:** | Environmental journalist and Innovation Earth columnist |
| **Lifestyle:** | Lives in an apartment in Boston. Enjoys discovering the local shops and entertainment in the city. |
| **Personality:** | Playful, Responsible, Sensitive and Selfless |
| **Interests:** | Backpacking, Entertaining, Socializing |
| **Goals and tasks in relation to app:** | Hates having to have a conversation with someone when they are busy browsing their phones. Wants his friends to be aware of their habit-driven interactions, but doesn't want to confront them. |
| **Environment:** | Relaxing and unwinding at a coffee shop |

*Obsessive User*

**Jennifer Smith, 22**

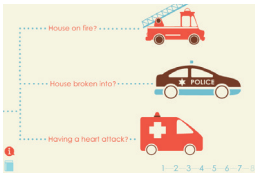
"Smart phones and social media expand our universe. We can connect with others or collect information easier and faster than ever."

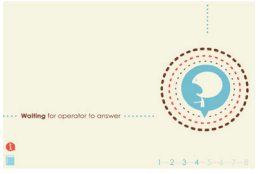
| | |
|---|---|
| **Background:** | Just started her first job as an architect at SHoP architects. |
| **Lifestyle:** | Lives in a studio in Manhattan. Loves socializing, parties and is a fashionista. |
| **Personality:** | Amiable, Sociable, Spontaneous, Dominating and Emotional |
| **Interests:** | Shopping. Meeting with friends. Exploring new places |
| **Goals and tasks in relation to app:** | Is hooked to her phone. She is gradually getting disconnected from the world. She has gotten her friends annoyed and walks into people while browsing her phone. |
| **Environment:** | Is always multi-tasking |

*Design Inspiration/Personal Style*

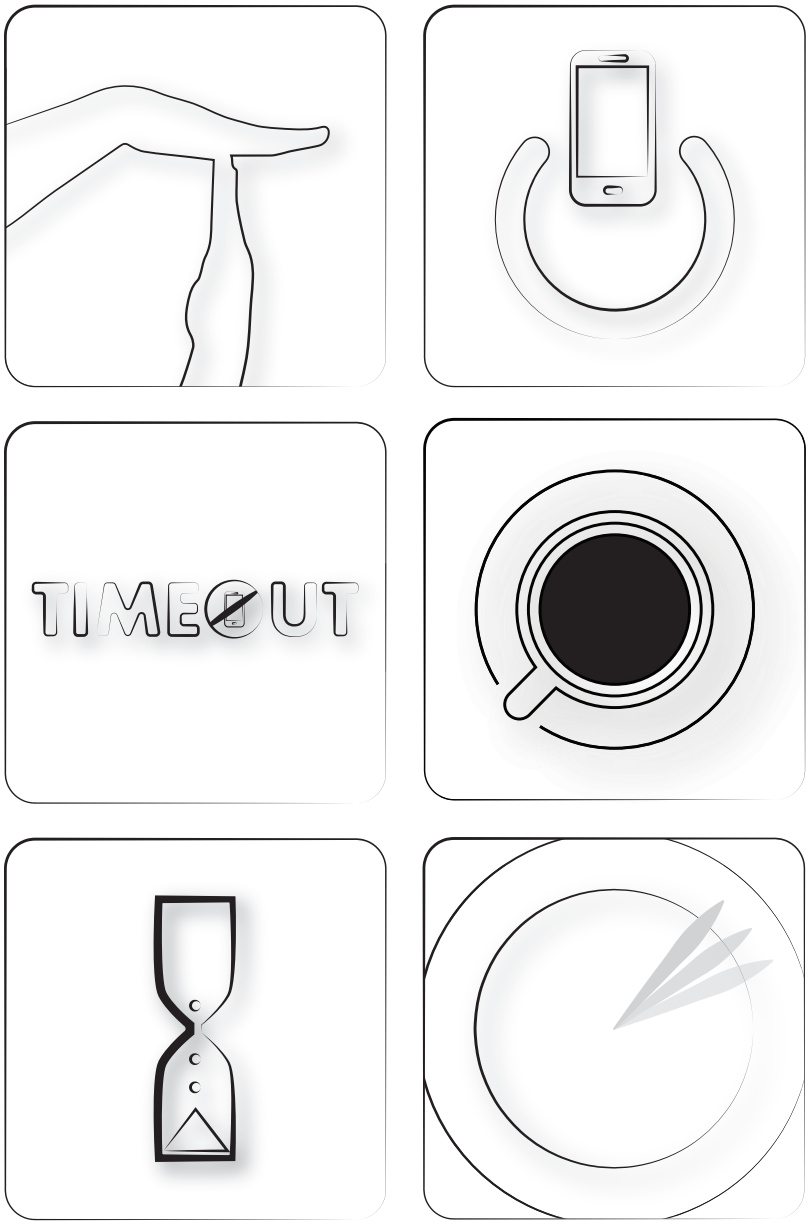




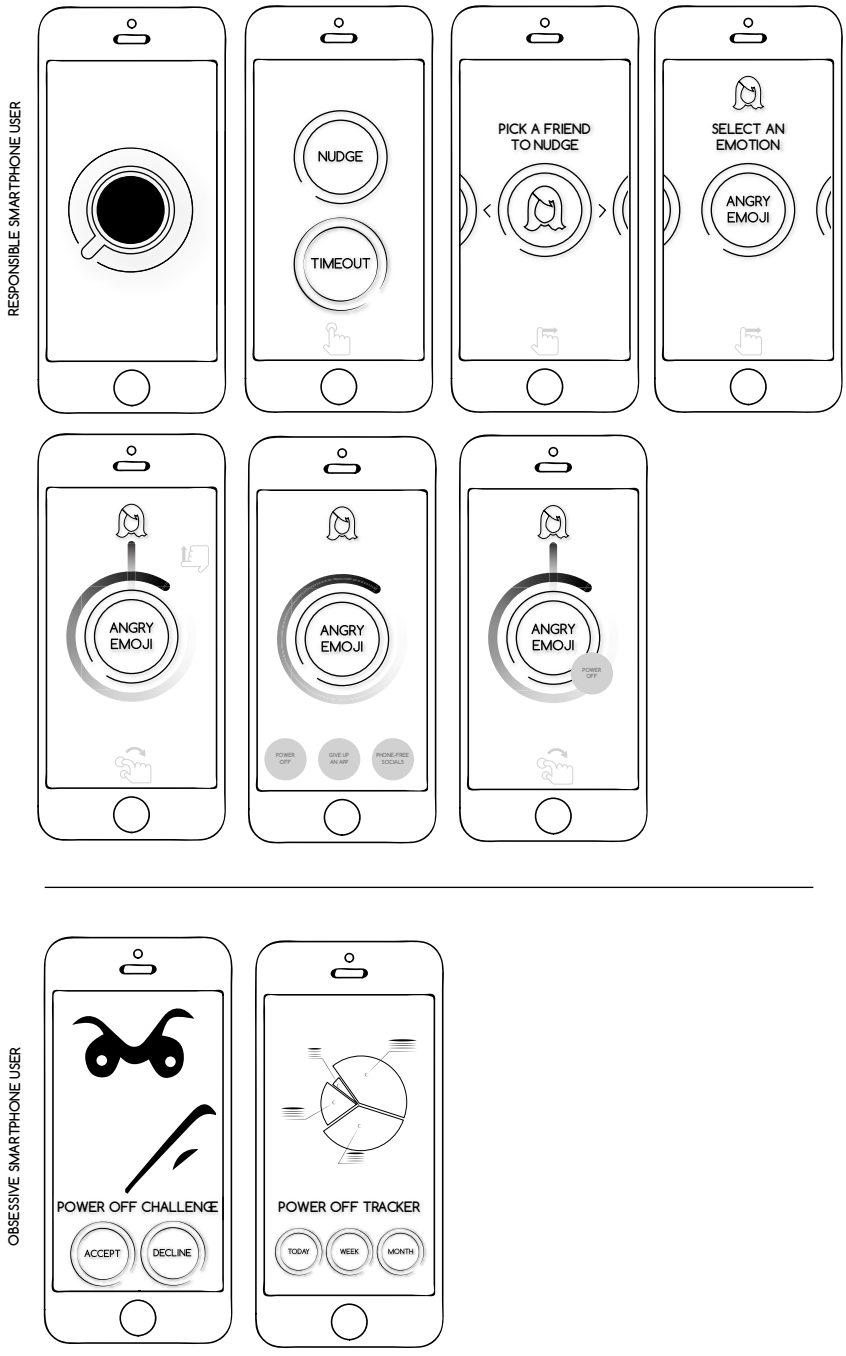




*Logo Sketches*



*Wireframes*


RESPONSIBLE SMARTPHONE USER
NUDGE
TIMEOUT
PICK A FRIEND TO NUDGE
SELECT AN EMOTION
ANGRY EMOJI
ANGRY EMOJI
ANGRY EMOJI
ANGRY EMOJI
POWER OFF
GIVE UP AN ARM
PHONE-FREE SOCIALS
POWER OFF
OBSESSIVE SMARTPHONE USER
POWER OFF CHALLENGE
ACCEPT
DECLINE
POWER OFF TRACKER
TODAY
WEEK
MONTH

# Deliverables

### Promotional Website

I will design a single-page website to provide information on the project and access to the prototypes, promotional video, thesis blog, and process work.

### Mobile Prototype

I will use Adobe InDesign and POP app to build a prototype of TimeOut to demonstrate it's user interface. This prototype will be utilized for user testing and feedback. All assets will be created using Adobe Photoshop, Adobe Illustrator and Adobe Dreamweaver. This app will allow users to nudge others preoccupied with their smartphones using in-app tap and swipe gestures. I may also include coach marks and tool tips to provide more information to the user.

### Motion Graphics / Promotional Video

I will use After Effects to create a promotional video. This video will provide an overview of the main aspects of the project and demonstrate the features of the project. It will also show various aspects of the app in action and give information about the purpose and goals of the project. Assets for this video will be created using Adobe Photoshop and Adobe Illustrator.

### Asset List

- Interface design for the iPhone app (10 screens)
- Welcome/Splash Screen
- Logo Design
- Design emojis (6 different expressions)
- Icons for the app (TBD)
- Motion Graphics/Promotional Video (90 secs)
- Comparative charts for challenges (3)

# Methodology

For my thesis, I will design a prototype for an iOS app for 18-24 year old adults.

**User–centered Design Goals**

- The app will allow users to send anonymous nudges to family and friends that are in close proximity
- The app will be easy to use with externally consistent interactions and gestures
- The app will be engaging and interactive

**Visual Design Goals**

- Semiotics: Create icons/emojis to express emotions which can provide feedback to obsessive users in form alerts
- Visualize usage statistics
- User experience design will promote human interaction and limit smartphone use

**Skills required**

- Requirements gathering
- Ability to rapidly prototype for iterative design improvements
- Comprehensive knowledge of designing user centric applications

# Implementation Strategies

**Comprehensive research**

- Will conduct surveys to analyze obsessive smartphone use
- Survey of literature (Publications in design, cognitive psychology and technology)

**Prototyping: Understanding the user interface**

- Mind Mapping
- Define user workflows
- Create a prototype

**User Test with paper prototypes**

**Designing the prototype**

- Make iterations in the workflow
- Design icons and emojis
- Create screens for the user and the receiver

**User testing of emojis and interface**

- Face-to-face conversations with target audience
- Guerrilla testing

**Implementation and deployment**

- Design an interactive prototype
- Develop a promotional website
- Create a promotional video

**User test the interactive prototype**

- Online surveys
- Face to face conversations

# Evaluation

The evaluation criteria and process are essential in determining if objectives were successfully achieved and people clearly understand the subject matter of the thesis. The app will be tested with the help of an online survey and face-to-face user interaction. The participants will assess the pros and cons of the applications and recommend improvements. After analyzing the feedback, necessary enhancement to can be made to the application by implementing the most requested features.

**Success Criteria**

- The app has made an impact in reducing obsessive smartphone usage
- Raised awareness
- Promoted positive behavioral changes
- People were able to use the app for the intended purpose

# Dissemination

To promote the thesis project, content will be posted on a personal blog, as well as on design community websites such as vimeo and dribble to obtain both traffic and feedback. The project will be submitted to various design competitions such as:

The 2015 RAF ADDY Awards

HOW Interactive Design Awards

AIGA (Re)design Awards

AIGA Design Ignites Change Fellowship

Communication Arts Interactive Competition

Adobe Design Achievement Awards

# Pragmatic Considerations

| | |
|---|---|
| Cost for posters and thesis displays | $60 |
| Competition Entrance Fees | $250 |
| Purchasing Domains | $10 |
| Promotional Website | $15 |
| Project Assets | |
| Product Mock-up Files (iPhone, desktop) | $20 |

# Implications

The results of this research will provide an insight on how user-centered design, information design and user interface design can influence behavior to reduce smartphone use.

The goal of the project is to demonstrate how user interface and user experience design can be used to promote human conversation in this technology driven world.

# Timeline


Aug
Sep
Oct
Nov
Dec
Feb
Mar
Apr
May
Defining Proposal
Proposal Defense
Finalizing Committee
Conducting Surveys
Thesis Development - Ideation and Designing the interface
Thesis Planning - Writing the Proposal
Thesis Blog
Meeting with Committee
User Testing(Initial concept, prototype and final design)
Prototyping
Promotional Video
Final Defense

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# IRB Documentation and Approval

*Form C: Approved IRB form for testing Human Subjects*

R·I·T

**Rochester Institute of Technology**

RIT Institutional Review Board for the
Protection of Human Subjects in Research
141 Lomb Memorial Drive
Rochester, New York 14623-5604
Phone: 585-475-7673
Fax: 585-475-7990
Email: hmfsrs@rit.edu

**Form C**
**IRB Decision Form**

**TO:** Tejal Sampat

**FROM:** RIT Institutional Review Board

**DATE:** **February 11, 2015**

**RE:** **Decision of the RIT Institutional Review Board**

Project Title – TimeOut

The Institutional Review Board (IRB) has taken the following action on your project named above.

☒ Approved, no greater than minimal risk

Now that your project is approved, you may proceed as you described in the Form A. **Note that this approval is only for a maximum of 12 months; you may conduct research on human subjects only between the date of this letter and February 11, 2016.**

You are required to submit to the IRB any:

- **Proposed** modifications and wait for approval before implementing them,
- Unanticipated risks, and
- Actual injury to human subjects.

Return the Form F, at the end of your human research project or 12 months from the above date. If your project will extend more than 12 months, your project must receive continuing review by the IRB.

Continuing review of research and approval of research studies is required so long as the research study is ongoing, that is, until research-related interactions and interventions with human subjects or the obtaining and analysis of identifiable private information described in the IRB-approved research plan have been completed.

Investigators are responsible for submitting sufficient materials and information for the IRB to meet its regulatory obligations, and should follow the institutional policies and procedures for continuing IRB review of research that are required by HHS regulations at (45 CFR 46.103(b)(4), 45 CFR 46.109(e), 45 CFR 46.115(a)(1)) as appropriate to the research activity.

Heather Foti, MPH
Associate Director
Office of Human Subjects Research

Revised 02.09.2011

*Recruitment E-mail*

**SUBJECT LINE:** Invitation to participate in a mobile application study and help a fellow RIT student with a thesis project

Hello,

My name is Tejal Sampat, I'm graduate student at RIT currently working on my Thesis project, TimeOut (A mobile application that reduces smartphone use). I am looking for people who may be interested in trying out the application and giving feedback after using it.

**What will I be doing in a usability study?**

You will be asked to do several short tasks using a website. You will also be asked to tryout the application and provide feedback on its effectiveness and intuitiveness.

**How long is a session?** 30 mins

**When and where?**

The study will be held[Days and Dates TBD] You will be asked to participate in person at [Potentially a study room in the RIT library]

**Interested in participating?**

Please reply to this email with your contact information or call me XXX-XXX-XXX. I'll give you a call to ask you some questions to help us determine if you qualify for the study.

If you have any questions, please contact me at xxXXXX@rit.edu.

Thank you for interest,

Tejal Sampat

MFA Visual Communication Design,

College of Arts and Sciences, RIT

*Online Survey*

The survey is designed to understand user needs to design the TimeOut App

**Overall goal:**

To see if users are aware of how often they check their phones

Inattentiveness to the surrounding due to continuous usage

If they make an effort to reduce their smart phone use? If yes, And How?

Do they use any of the competitive products to monitor their use?

**Questions:**

Age: Occupation:

1. What do you use your smartphone regularly for? Check all that apply.

   Social Media (Facebook, twitter)

   Texting

   Making Calls

   Gaming

   IM or Whatsapp

   Other _____

2. How often do you use your phone?

   less than 1 hour a day

   1 to 3 hours a day

   more than 3 hours a day

3. Have you ever been confronted for using your phone in social situations? (café's, parties etc)

   Yes No

4. Have you ever been confronted someone for using their phones in social situations? (café's, parties etc)

Yes No

5. Have you taken any steps to reduce your smartphone usage? If so, what are they?

6. Have you ever gotten into a fight because you or your companion was ignored due to excessive smartphone use? (For eg. One of you was hooked to the phone when the other one was trying to have a conversation)

Yes No

How did you handle the situation?

7. Are you aware of any apps that help reduce smartphone use?

Yes No

If yes, have you used any of them? Did you benefit from it?

*Moderators Task Sheet*

Today, We will be testing the TimeOut app, which aims at reducing smartphone use.

**Device:** iPhone 6

**Usability Tool:** Thinking Aloud usability tool along with EPIC Model will be used as a basis for using testing

**Test Subject Information:**

Name:

Occupation:

Familiarity with the device platform

Age:

**iPhone Usage:** For eg. Hooked to phone, checks phone occasionally, gets annoyed when someone uses their phone excessively.

**Task#1** Open the app by clicking on its icon from the Home Screen. Review the wireframe and give me a brief description of what you think the app does.

**Goals:** The user needs to understand they can send anonymous nudges to obsessive smartphone users in close proximity

**Notes:**_____

_____

**Task #2** Imagine you are sitting at a café with a group of friends and there is a person you are trying to talk to who is hooked to their phone. You are annoyed but don't want to embarrass him or her, you decide to send them a nudge using the time out app. First, Open the application and select the person you would like to send an emoji to. Next select an emoji that best suits your emotions for this situation.

**Q1. Why did you pick [Emoji Name]?**

(If the user used the spinner to increase to decrease the level of the expression)

**Q2. What do you think the purpose of the spinner is?**

**Goals:**

The user can effectively pick the person they would like to send the emoji to.

The user is able to understand what each emoji signifies

Analysis which is the most used and unused emoji

**Notes:**_____

_____

**Task#3** Now that you have selected the emoji you would like to send it to your friend. You can add a challenge to the nudge if you like.

**Q1. Will you want to send a nudge or not? Why?**

**Q2. Which challenge would you like to send and why?**

**Goals:**

Do the users want to give a challenge?

Which challenge is most picked?

Does the user understand the terminology?

**Notes:**_____

_____

**Task#4** The receiver gets locked out of their phone for 15 seconds, but right after that they start using their phone. How would you respond?

**Q1. Send another nudge, ignore them confront them?**

For this task lets assume you decide to send them another nudge. For this, open up the app, use the spinner to increase the emotion level and send it to the person.

**Goals:**

To see if the user notices the emotion level is increased by default

Does the user send the same emoji or picks another emoji

**Notes:**_____

_____

**Task#5** Imagine you are the receiver of the [expression] emoji. What you do when you receive the emoji and get blocked out for the app for 15 secs?

**Pick one:** Put down your phone, ignore the emoji or ask to see who send the emoji (get angry). Explain Why?

**Goals:**

To see if the message of putting down the phone is communicated to the receiver

**Notes:**_____

_____

**Follow up questions:**

**Would you use the TimeOut app in the future (please explain why or why not)?**

**If you had a magic wand, how would you improve the TimeOut app?**

**What did you like about the TimeOut App?**

**How likely are you to recommend this app to a friend or colleague (0=Not at all likely, and 10=Very Likely)?**

**Notes:**_____

_____

*Consent and Recording Release form*

I agree to participate in the study conducted and recorded by Tejal Sampat for her Thesis Project, TimeOut (http://www.tejalsampat.com/#/timeout/). I understand this study will include a 30-minute interview, which will require me to try out the application and give feedback on its effectiveness and intuitiveness based on the scenarios provided to me.

I understand and consent to the use and release of the recording by Tejal Sampat. I understand that the information and recording is for research purposes only and that my name and image will not be used for any other purpose. I relinquish any rights to the recording and understand the recording may be copied and used by Tejal Sampat without further permission.

I understand that participation in this usability study is voluntary and I agree to immediately raise any concerns or areas of discomfort during the session with the study administrator. I also understand, I can withdraw at any time, and there will be no penalty if I decide to do so.

Please sign below to indicate that you have read and you understand the information on this form and that any questions you might have about the session have been answered.

Date: _____

Please print your name: _____

Please sign your name: _____

If you have any questions about the study or if there is a research-related injury or adverse event, please contact:

**Tejal Sampat** (Investigator) - e-mail: ts7993@rit.edu

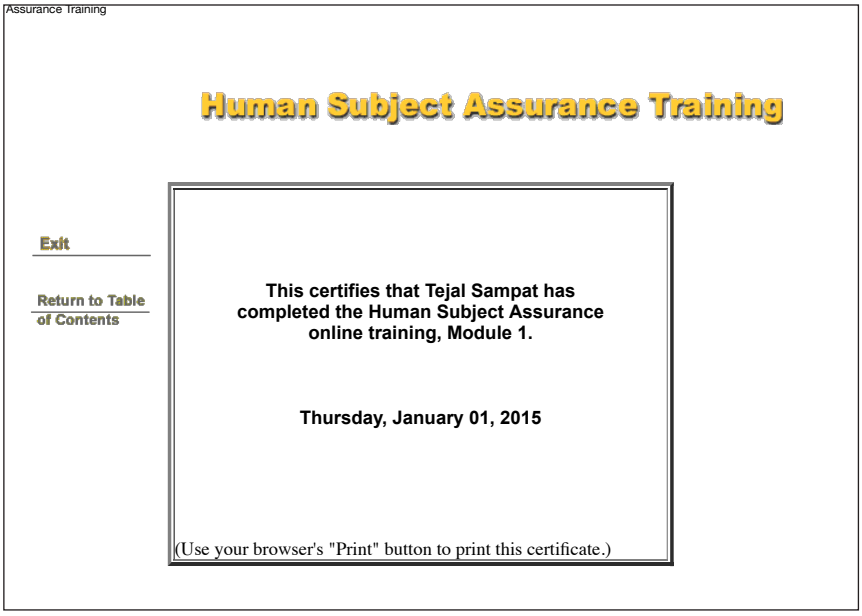
**Chris Jackson**, Graduate Director (Advisor) - e-mail: chris.jackson@rit.edu
Additionally, if you have any questions about your rights or if there is an adverse event, please contact:

**Heather Foti**, MPH (Associate Director, HSRO): e-mail: hmfsrs@rit.edu

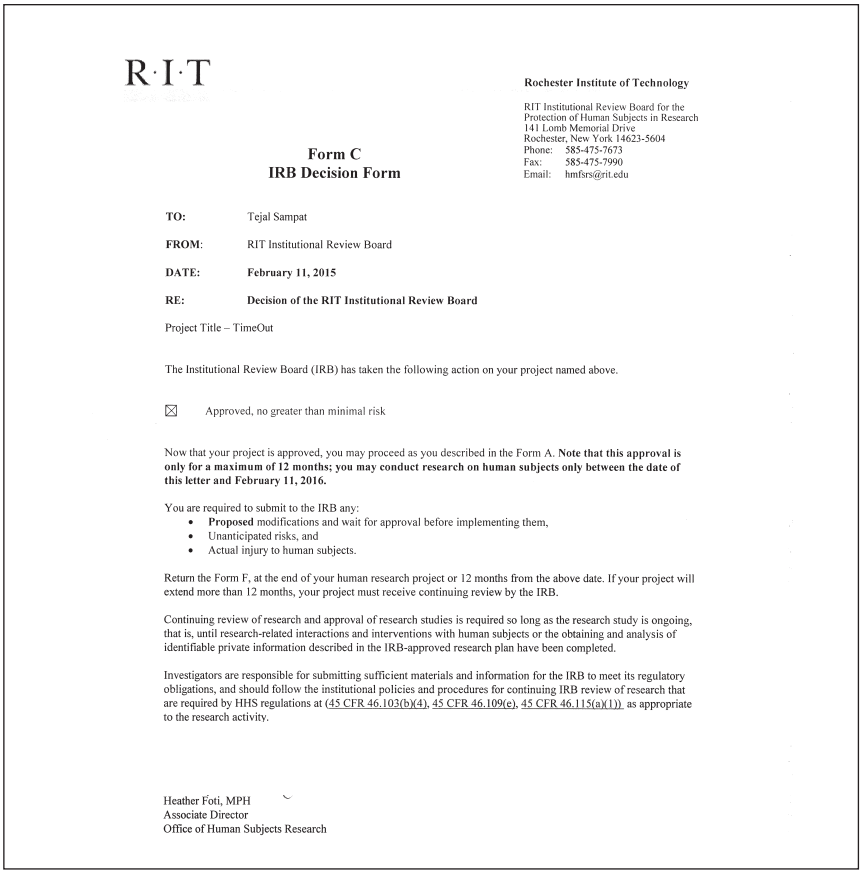
Thank you!

I appreciate your participation.

*Human Subject Assurance Training*




*IRB Approval Form*



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Return the Form F, at the end of your human research project or 12 months from the above date. If your project will extend more than 12 months, your project must receive continuing review by the IRB.

Continuing review of research and approval of research studies is required so long as the research study is ongoing, that is, until research-related interactions and interventions with human subjects or the obtaining and analysis of identifiable private information described in the IRB-approved research plan have been completed.

Investigators are responsible for submitting sufficient materials and information for the IRB to meet its regulatory obligations, and should follow the institutional policies and procedures for continuing IRB review of research that are required by HHS regulations at (45 CFR 46.103(b)(4), 45 CFR 46.109(e), 45 CFR 46.115(a)(1)) as appropriate to the research activity.

Heather Foti, MPH
Associate Director
Office of Human Subjects Research

*Form A: Request for IRB Review of Research*

R·I·T **Rochester Institute of Technology**
**Institutional Review Board**
585-475-2167 ~ www.research.rit.edu/hsro ~ hsro@rit.edu

Office Use Only
Signed original received:
Received by:
Electronic copies received:

## Form A: Request for IRB Review of Research Involving Human Subjects

- **To be completed by the investigator** after reading the RIT Policy for the Protection of Human Subjects in Research, found in the *Institute Policies and Procedures Manual*, Section C5.0, and on the Office of Human Subjects Research website, http://www.rit.edu/research/hsro/process_geninfo.php.
- Submit **BOTH,** an **electronic version to** hsro@rit.edu **AND the signed original of the completed Form A AND ALL attachments (consents, instruments, tasks, etc.)** to **HSRO**, University Services Center, Suite #2400

| | | |
|---|---|---|
| Project Title: TimeOut | | |
| Investigator's Name: Tejal Sampat | Investigator's Phone: 585-520-8271 | Investigator's Email: ts7993@rit.edu |
| Investigator's College and Department: Rochester Institute of Technology, College of Arts and Sciences | | |
| Project Start Date: September 5, 2014 | Date of IRB Request: January 26, 2014 | |
| If Student, Name of Faculty Supervisor: Chris Jackson | Faculty's Phone: 585-475-5823 | Faculty's Email: chris.jackson@rit.edu |
| If Not Employed or a Student at RIT, List Name, College & Dept. of RIT Collaborator: Chris Jackson | RIT Collaborator's Phone: 585-475-5823 | RIT Collaborator's Email: chris.jackson@rit.edu |
| Will this project be funded externally? ▫Yes ▫No | Is the Investigator a student? ▫Yes ▫No | |
| If yes, name of funding agency: | | |
| Status of project: ▫ Submitted on | ▫ Funding pending | ▫ Funding confirmed |

Do you have a personal financial relationship with the sponsor? ▫ Yes ▫ No

If yes, please read RIT policy C4.0 – Conflict of Interest Policy Pertaining to Externally Funded Projects. Complete the **Investigator's Financial Disclosure Form** and attach it to this Form A. *All information will be kept confidential.*

**BY MY SIGNATURE BELOW, I ATTEST TO AN UNDERSTANDING OF AND AGREE TO FOLLOW ALL APPLICABLE RIT, SPONSOR, NEW YORK STATE, AND FEDERAL POLICIES AND LAWS RELATED TO CONDUCTING RESEARCH WITH HUMAN SUBJECTS. If significant changes in investigative procedures are needed during the course of this project, I agree to seek approval from the IRB prior to their implementation. I further agree to immediately report to the IRB any adverse incidents with respect to human subjects that occur in connection with this project.**

Signature of Investigator Date

Signature of Faculty Advisor (for Student) or RIT Collaborator (for External Investigator) Date

Signature of Department Chair or Supervisor Date

**Complete the attached Research Protocol Outline and attach to this cover form with other required attachments.**

**Attachments required for all projects:**

▫ Project Abstract

▫ Investigator Responsibilities and Informed Consent Training Certificate(s) from OHRP (see http://ohrp-ed.od.nih.gov/)

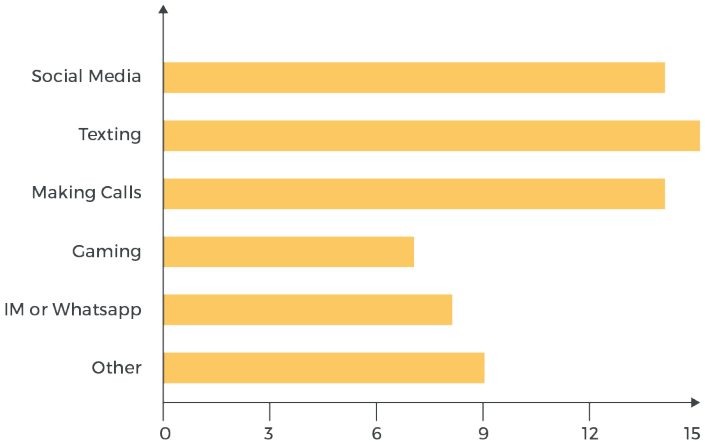
**Attachments required where applicable:**

# User Research

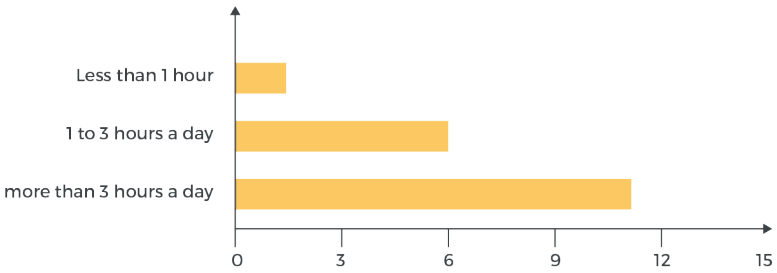
*Online Survey*

**Online Survey to understand user habits and recruit them for user testing:**

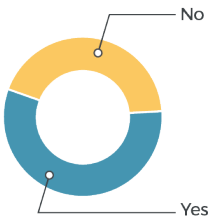
What do you use your smartphone regularly for?




How often do you use your phone?

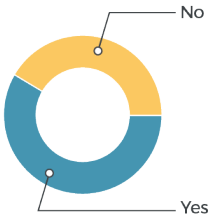


Have you ever been confronted for using your phone in social situations? (café's, parties etc)



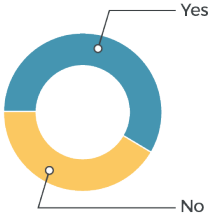

| | | |
|---|---|---|
| **Yes** | **8** | 53% |
| **No** | **7** | 47% |

Have you ever been confronted someone for using their phones in social situations?




| | | |
|---|---|---|
| **Yes** | **9** | 60% |
| **No** | **6** | 40% |

Have you taken any steps to reduce your smartphone usage?

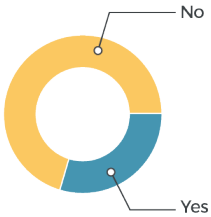



| | | |
|---|---|---|
| **Yes** | **6** | 40% |
| **No** | **4** | 60% |

**If so, what are they?**

- I try to be conscious as to when it's appropriate to use my phone. Otherwise, I use my phone for productivity so I will always have it on me.
- Powering down, placing the device in an area that is hard to access
- Leaving phone at home, turning off internet/wifi and just setting personal limits on how often to check phone
- Leaving it at home
- I try to be conscious as to when it's appropriate to use my phone. Otherwise,
- I use them for productivity so I will always have it on me.
- Setting a timer before study, try to avoid using phone during that period time or shut it down or delete useless applications like games.

**Have you ever gotten into a fight because you or your companion was ignored due to excessive smartphone use? (For eg. One of you was hooked to the phone when the other one was trying to have a conversation)**

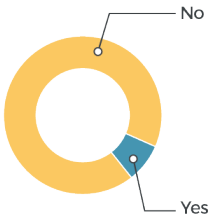



| | | |
|---|---|---|
| **Yes** | **9** | 60% |
| **No** | **6** | 40% |

**How did you handle the situation?**

- Apologized and put down the phone
- It wasn't a full on fight. My bf just told me to put the phone down.
- My son – I tell him to put it down when someone is talking to him. (I know I am out of your age range, but I have a 12 year old son who is addicted to his phone)

**Are you aware of any apps that help reduce smartphone use?**




| | | |
|---|---|---|
| **Yes** | **1** | 7% |
| **No** | **14** | 93% |

**If yes, have you used any of them? Did you benefit from it?**

Offtime for Android. BreakFree

# Participant 1 – Felicia K

*User Interview*

**Summary:**

Likes:

- Theme and Emojis
- The app narrowing down the people you can send timeOuts to based on location
- Is someone who doesn't like to confront, likes the overall concept
- Positive response to all challenges

**Potential Problem Areas:**

- Needs a walkthrough to understand different features in the app
- Not sure what each emoji is (although recognizes correctly)
- Confused by challenge names
- Not sure how within reach(Proximity based challenge) works
- Needs a description to help understand what the app really does
- Prefers a notification over the app taking over the home screen when you receive an timeOut

**Interview - Moderator's Task Sheet:**

Today, We will be testing the TimeOut app, which aims at reducing smartphone use.

Device: iPhone 6

Usability Tool: Thinking Aloud usability tool along with EPIC Model will be used as a basis for using testing

**Test Subject Information:**

Undergraduate Graphic Design Student, 22

Reserved, conscious what she was doing and scared of confrontation and iOS user

**iPhone Usage:** For eg. Hooked to phone, checks phone occasionally, gets annoyed when someone uses their phone excessively.

**Task#1** Open the app by clicking on its icon from the Home Screen. Review the wireframe and give me a brief description of what you think the app does.

**Goals:** The user needs to understand they can send anonymous nudges to obsessive smartphone users in close proximity

First perception of the app: An app that lets you block people

**Task #2** Imagine you are sitting at a café with a group of friends and there is a person you are trying to talk to who is hooked to their phone. You are annoyed but don't want to embarrass him or her, you decide to send them a nudge using the time out app.

First, Open the application and select the person you would like to send an emoji to.

Next select an emoji that best suits your emotions for this situation.

**Q1. Why did you pick [Emoji Name]?**

If the user used the spinner to increase to decrease the level of the expression.

**Q2. What do you think the purpose of the spinner is?**

Goals:

- The user can effectively pick the person they would like to send the emoji to.
- The user is able to understand what each emoji signifies
- Analysis which is the most used and unused emoji

**Notes:**

Initially suggested she wasn't sure what each emoji was:

**Red:** Angry

**Orange:** Stressed

Was looking for some signifier that said what each expression was. Based on the scenario:

**Task#2:** She decides to go with Blue emoji – Bored

She has faced a situation where she was spending time with friends (one specific person) – She usually tries start a conversation or just read a book

**Task#3** Now that you have selected the emoji you would like to send, send it to your friend. You can add a challenge to the nugde if you like.

Q1. Will you want to send a nudge or not? Why?

Q2. Which challenge would you like to send and why?

**Goals:**

- Do the users want to give a challenge?
- Which challenge is most picked?
- Does the user understand the terminology?

**Notes:**

- Likes the idea of changing the intensity of the emoji. She decides to start lower down and then increase the intensity gradually based on the scenario
- Needs a walkthrough to clearly understand the features
- Icon 1(app store) – No text
- Icon 2(phone) – No phone
- Icon 3(Scorecard) – count down
- Get curiously and starts asking questions
- Doesn't understand the challenge names
- Looks at the icon for proximity – not sure what within reach means/Lay-off

- Feels the friend can use the phone when they are with you
- Feels all the money is coming from her. Not sure if the app partners up with Starbucks
- Not comfortable with swipe up to send the emoji – tries swiping side ways (suggests a notification)
- Some animation suggesting the action

**Task#4** The receiver gets locked out of their phone for 15 seconds, but right after that they start using their phone. How would you respond?

Q1. Send another nudge, ignore them confront them?

For this task lets assume you decide to send them another nudge. For this, open up the app, use the spinner to increase the emotion level and send it to the person.

**Goals:**

- To see if the user notices the emotion level is increased by default
- Does the user send the same emoji or picks another emoji

**Notes:**

- If she was next to the person, she would check to see if her friend received it and she would expect the friend to acknowledge it.
- Is looking for a back button

**Task#5** Imagine you are the receiver of the [expression] emoji. What you do when you receive the emoji and get blocked out for the app for 15 secs?

Pick one: Put down your phone, ignore the emoji or ask to see who send the emoji (get angry). Explain Why?

**Goals:**

To see if the message of putting down the phone is communicated to the receiver

**Notes:**

Not sure if an app should take over, if an app tries to do too much – she would delete the app suggests a notification or a timer

**Follow up questions:**

**1. Would you use the TimeOut app in the future (please explain why or why not)?**

If it was available on the app store, sure. If the receiver didn't need the app that would be even better.

**2. If you had a magic wand, how would you improve the TimeOut app?**

Would like to see an option that allow you to give yourself a timeOut

**3. What did you like about the TimeOut App?**

Wants tags below each emoji that suggests what each emoji is. Because doesn't want to miscommunicate as she is representing her self.

Maybe the app could benefit from expressions in addition to emojis

Not sure of the title for add challenge/Doesn't understand the wording suggests saying send an app challenge

**4. How likely are you to recommend this app to a friend or colleague (0=Not at all likely, and 10=Very Likely)?**

Quite likely – 8

# Participant 2 – Elizabeth S

**Summary:**

**Likes:**

- The app narrowing down the people you can send timeOuts to based on location
- Might use the challenges for fun and challenge each other/compete
- Most likely to use social media
- The wording when you receive the emoji is hilarious
- Great way for mom's to send emoji's to their kids ( believes her mom would use this app all the time

**Potential Problem Areas:**

- Needs a walkthrough to understand different features in the app
- If you tap on social media, she expects to see suggestion for which social media app to block. People would be pass aggressive about
- Not sure how within reach(Proximity based challenge) works
- 15 seconds to decline a challenge feels long – Suggests a 10 seconds
- Needs a indication to be able to take urgent calls when timed out
- Decide later is a option after you send the emoji

**Interview - Moderator's Task Sheet:**

Today, We will be testing the TimeOut app, which aims at reducing smartphone use.

Device: iPhone 6

Usability Tool: Thinking Aloud usability tool along with EPIC Model will be used as a basis for using testing

**Test Subject Information:**

Undergraduate Animation Student, 18 Extrovert, Bubbly, Doesn't like to be confronted iOS user

**iPhone Usage:** For eg. Hooked to phone, checks phone occasionally, gets annoyed when someone uses their phone excessively.

**Task#1** Open the app by clicking on its icon from the Home Screen. Review the wireframe and give me a brief description of what you think the app does.

**Goals:**

The user needs to understand they can send anonymous nudges to obsessive smartphone users in close proximity

**Notes:**

She feels like it's more like a social app and you need to know the people and they have done something to deserve a timeOut. More like hot or not

**Task #2** Imagine you are sitting at a café with a group of friends and there is a person you are trying to talk to who is hooked to their phone. You are annoyed but don't want to embarrass him or her, you decide to send them a nudge using the time out app.

First, Open the application and select the person you would like to send an emoji to.

Next select an emoji that best suits your emotions for this situation.

**Q1. Why did you pick [Emoji Name]?**

If the user used the spinner to increase to decrease the level of the expression.

**Q2. What do you think the purpose of the spinner is?**

Goals:

- The user can effectively pick the person they would like to send the emoji to.
- The user is able to understand what each emoji signifies
- Analysis which is the most used and unused emoji

**Notes:**

Based on the scenario, she was able to figure the function out. Needs a walkthrough rather than tutorials. Reads description when she doesn't understand something. Wants a tutorial more like Tumblr

**Blue**: Annoyed

**Red:** Angry

**Orange:** Alarmed/Worried – Awww

With emojis people perceive it different and friends get it. So, the emoji explain themselves.

**Task#3** Now that you have selected the emoji you would like to send, send it to your friend. You can add a challenge to the nudge if you like.

**Q1. Will you want to send a nudge or not? Why?**

**Q2. Which challenge would you like to send and why?**

**Goals:**

- Do the users want to give a challenge?
- Which challenge is most picked?
- Does the user understand the terminology?

**Notes:**

- Would definitely use the degrees of boredom
- Finds it interesting to be able to adjust it
- Needs a indication that the slider would appear – likes to play around but a signifier is good

- More like snapshot – Sometimes I have had friends tell me about some functions
- Looking for an option to get back to home screen
- Abort action

**Challenges Feedback**

- Icon 1(app store) – Not sure
- Icon 2(phone) – Stop being on phone
- Icon 3(Scorecard) – Looks like a score
- Not sure icon 1 was an "A"
- Likes the explanations
- If you tap on social media, she expects to see suggestion for which social media app to block.
- People would be passive aggressive.
- Glad it is anonymous
- Confused about proximity – based timeOut
- Feels like she has to pay the person herself
- Might not use the challenges initially
- Might use the challenges for fun and challenge others/compete

**Task#4** The receiver gets locked out of their phone for 15 seconds, but right after that they start using their phone. How would you respond?

**Q1. Send another nudge, ignore them confront them?**

For this task lets assume you decide to send them another nudge. For this, open up the app, use the spinner to increase the emotion level and send it to the person.

**Goals:**

- To see if the user notices the emotion level is increased by default
- Does the user send the same emoji or picks another emoji

**Notes:**

- If she was next to the person, she would check to see if her friend received it and she would expect the friend to acknowledge it.
- Is looking for a back button

**Task#5** Imagine you are the receiver of the [expression] emoji. What you do when you receive the emoji and get blocked out for the app for 15 secs?

**Pick one:** Put down your phone, ignore the emoji or ask to see who send the emoji (get angry). Explain Why?

**Goals:**

To see if the message of putting down the phone is communicated to the receiver

**Notes:**

- Not sure if an app should take over, if an app tries to do too much she would delete the app
- suggests a notification or a timer(as soon she she does to the next screen, she realizes the app already does that)

**Follow up questions:**

**1. Would you use the TimeOut app in the future (please explain why or why not)?**

Super interested in the app. Especially, during group study.

**2. If you had a magic wand, how would you improve the TimeOut app?**

Not really sure. Likes it overall

**3. What did you like about the TimeOut App?**

Some people feel they don't have self control, they can definitely benefit

**4. How likely are you to recommend this app to a friend or colleague (0=Not at all likely, and 10=Very Likely)?**

Quite likely – 10

# Participant 3 – Andrew L

**Summary:**

**Likes:**

- The challenges and how easy it is to use
- Helps find out who your real friends are
- Look and feel is good
- Will be quick to use, once all functions work
- Monetary incentive a interesting

**Potential Problem Areas:**

- Not sure what each emoji is
- Doesn't want to give a $1 if you can put a timeframe on the timeOut – But maybe more likely to put down the phone
- What if the timeOut feels like spam if its anonymous
- Needs a back button

**Interview - Moderator's Task Sheet:**

Today, We will be testing the TimeOut app, which aims at reducing smartphone use.

Device: iPhone 6

Usability Tool: Thinking Aloud usability tool along with EPIC Model will be used as a basis for using testing

Test Subject Information:

Undergraduate Computer Engineering Student, 20

Quiet, Doesn't face such situations often

**Andriod user**

**iPhone Usage:** For eg. Hooked to phone, checks phone occasionally,

gets annoyed

when someone uses their phone excessively.

**Task#1** Open the app by clicking on its icon from the Home Screen. Review the wireframe and give me a brief description of what you think the app does.

**Goals:** The user needs to understand they can send anonymous nudges to obsessive smartphone users in close proximity

Notes: Feels its a game with characters

**Task #2** Imagine you are sitting at a café with a group of friends and there is a person you are trying to talk to who is hooked to their phone. You are annoyed but don't want to embarrass him or her, you decide to send them a nudge using the time out app.

- First, Open the application and select the person you would like to send an emoji to.
- Next select an emoji that best suits your emotions for this situation.

**Q1. Why did you pick [Emoji Name]?** If the user used the spinner to increase to decrease the level of the expression.

**Q2. What do you think the purpose of the spinner is?**

Goals:

- The user can effectively pick the person they would like to send the emoji to
- The user is able to understand what each emoji signifies
- Analysis which is the most used and unused emoji

**Notes:**

**Blue:** Boredom

**Red:** Angry

**Orange:** Shock

You always have a certain emotions. Hesitantly replies based on the situations. The behavior is rude. Picks orange for annoyance

**Task#3** Now that you have selected the emoji you would like to send, send it to your friend. You can add a challenge to the nudge if you like.

**Q1. Will you want to send a nudge or not? Why?**

**Q2. Which challenge would you like to send and why?**

**Goals:**

- Do the users want to give a challenge?
- Which challenge is most picked?
- Does the user understand the terminology?

**Notes:**

- Want to be able to customize the amount of time the friend should get a timeOut
- Especially for meetings
- Feels proximity is more like when they are with you they can use their phones
- Curious how that would work – doesn't want to give a $1 if you can put a timeframe on the timeOut

**Task#4** The receiver gets locked out of their phone for 15 seconds, but right

after that they start using their phone. How would you respond?

**Q1. Send another nudge, ignore them confront them?**

For this task lets assume you decide to send them another nudge. For this, open up the app, use the spinner to increase the emotion level and send it to the person.

**Goals:**

- To see if the user notices the emotion level is increased by default
- Does the user send the same emoji or picks another emoji

Notes: Ability to send messages in addition to emojis

**Task#5** Imagine you are the receiver of the [expression] emoji. What you do when you receive the emoji and get blocked out for the app for 15 secs?

Pick one: Put down your phone, ignore the emoji or ask to see who send the emoji (get angry). Explain Why?

**Goals:**

To see if the message of putting down the phone is communicated to the receiver

**Notes:**

Not sure if an app should take over, if an app tries to do too much – she would delete the app suggests a notification or a timer

**Follow up questions:**

**1. Would you use the TimeOut app in the future (please explain why or why not)?**

Maybe

**2. If you had a magic wand, how would you improve the TimeOut app?**

Keep it quick but allow customization

**3. What did you like about the TimeOut App?**

- Look and feel is good
- Will be quick to use once all functions work
- Monetary incentive a interesting

**4. How likely are you to recommend this app to a friend or colleague (0=Not at all likely, and 10=Very Likely)?**

Maybe – 5 (if there is a tutorial)

# Conducted between 3 – 10 March 2015:

*Summary of User Interviews*

**Pros:**

- 4 of 8 users preferred the app narrowing down the people you can send timeOuts to based on location
- 2 of the 8 users suggested they might use the challenges for fun and challenge each other/compete
- 3 of 8 users were most likely to use "social media challenge"
- 2 of 8 users thought the wording when you receive the emoji is hilarious
- 1 of users users commented that it might be a great way for mom's to send emoji's to their kids ( believes her mom would use this app all the time
- 7 of 8 users liked the overall theme and Emojis
- 4 of 8 users were happy they could avoid confrontation
- 5 of 8 users like the app being passive aggressive and getting your emotions across
- 5 of 8 users had positive responses to all challenges
- 1 of 8 users thought it helps find out who your real friends are
- 6 of 8 users believed it will be quick to use, once all functions work
- 2 of 8 users felt monetary incentive a interesting (in a good way)

**Problem Areas:**

- 8 of 8 users need a walkthrough to understand different features in the app – Priority 1
- 2 of 8 users said: If you tap on social media, they expected to see suggestion for which social media app to block.
- 2 of 8 users thought the reciever might find out who send the timeout. Advised adding a timer(so the reciever recieved the notification after a while) - Priority 2
- 3 of 8 users were not sure how within reach(Proximity based challenge) works – Priority 1
- 1 of 8 user felt 15 seconds to decline a challenge was long – Suggested

a 10 seconds timeOut

- 2 of 8 users Need a indication to be able to take urgent calls when timed out
- 2 of 8 user felt decide later is a option after you send the emoji - Priority 2
- 3 of 8 users were not sure what each emoji was (although recognized them correctly)
- 2 of 8 users is confused by challenge names – Priority 1
- 2 of 8 users prefer a notification over the app taking over the home screen when you receive an timeOut
- 4 of 8 users didn't want to give a $1 if you can't put a timeframe on the timeOut – But maybe more likely to put down the phone
- 1 of 8 users questioned: What if the timeOut feels like spam if its anonymous
- 2 of 8 users missed a back button – Priority 1

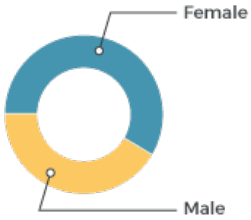
*Guerilla Testing during Imagine RIT*

**Guerilla testing and a short survey was conducted during Imagine RIT (May 2th, 2015) to understand user habits and evaluate the prototype and promotional video.**

**Following components were evaluated for the study:**

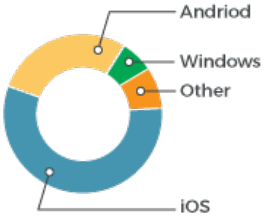
Age: 7 - 55 years

Gender



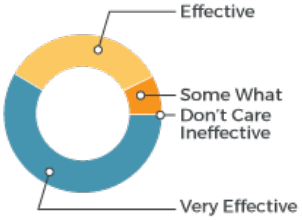

| | | |
|---|---|---|
| **Male** | **13** | 41.9% |
| **Female** | **18** | 58.9% |

Current OS



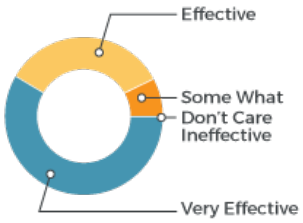

| | | |
|---|---|---|
| **iOS** | **18** | 58.1% |
| **Andriod** | **10** | 32.3% |
| **Windows** | **2** | 58.1% |
| **Other** | **1** | 32.3% |

Visual Style



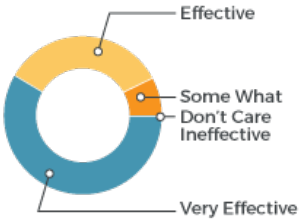

| | | |
|---|---|---|
| **1 - Very Effective** | **17** | 54.8% |
| **2 - Effective Andriod** | **13** | 32.3% |
| **3 - Some what effective** | **1** | 3.2% |
| **4 - Don't care** | **0** | 0% |
| **5 - Ineffective** | **0** | 0% |

Clarity of Information




| | | |
|---|---|---|
| 1 - Very Effective | 16 | 51.6% |
| 2 - Effective Andriod | 12 | 38.7% |
| 3 - Some what effective | 3 | 9.7% |
| 4 - Don't care | 0 | 0% |
| 5 - Ineffective | 0 | 0% |

Usability




| | | |
|---|---|---|
| 1 - Very Effective | 13 | 41.9% |
| 2 - Effective Andriod | 14 | 45.2% |
| 3 - Some what effective | 4 | 12.9% |
| 4 - Don't care | 0 | 0% |
| 5 - Ineffective | 0 | 0% |

**Suggested Improvements:**

- Make the home screen clickable so I enter the app directly
- Nothing! It's cool
- Great visuals! Maybe a little bit more instruction
- None. Looks great!
- After setting Borden level, change screen to challenge selection.
- Have a tool tip option
- At the one min mark, the audio and visuals were too quick for me. Consider slowing it down.
- I like things that address real problems in interruptive playful way. It's fun n playful

**Comments:**

- Great idea, I would get this app
- Very nice!
- Great job!
- Way to shut down device as option
- Great idea for the modern times
- I think it will be very useful and interesting when dining out
- It sounds extremely useful
- Great app!! Hope it they actually hang out
- Cool Concept! Love it
- Good work
- I liked the concept a lot
- Great idea

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